REPORT

OF THE

Indian Tariff Board

ON THE

IRON AND STEEL INDUSTRY

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Report
on the
Iron and Steel Industry.

CHAPTER I.

Introductory.

Terms of reference.

The Government of India directed that the Tariff Board should undertake the enquiry laid down by the Steel Industry (Protection) Act of 1927, and issued the terms of reference in the following Resolution published on August 26th, 1933:—

> " The Protection afforded to certain manufactures of iron and steel by the Steel Industry (Protection) Act, 1927, as subsequently amended, will determine on the 31st day of March, 1934. Clause 3 of that Act provides that the Governor General in Council shall, not later than the 31st day of March, 1934, cause to be made by such persons as he may appoint in this behalf, an enquiry as to the extent, if any, to which it is necessary to continue the protection of the steel industry in British India and as to the manner in which any protection found necessary should be conferred. The Government of India have decided that the prescribed Statutory Enquiry should be undertaken by the Tariff Board and the following terms of reference have been framed for its guidance:—
>
> (*a*) The Board is requested to re-examine the measures of protection now enjoyed by the steel industry under the Steel Industry (Protection) Act of 1927, as subsequently amended, the Wire and Wire Nail Industry (Protection) Act of 1932, and the Indian Tariff (Ottawa Trade Agreement) Amended Act of 1932 and to report in respect of each protected article whether it is still necessary to continue protection and, if so, whether the existing measure of protection should be increased or diminished or whether the manner in which protection is conferred should be altered.
>
> (*b*) In dealing with the wire and wire nail industry the Board will bear in mind the considerations set forth in paragraphs 3, 4 and 5 of its 1931 Report on the Wire and Wire Nail Industry and will consider whether the first of the conditions prescribed by the

Indian Fiscal Commission in paragraph 97 of its Report is now satisfied.

(*c*) In making its recommendations the Tariff Board will take all relevant considerations into account including that stated in part (*b*) of the Resolution adopted by the Legislative Assembly on the 16th February, 1923.

(*d*) The Board will also be at liberty to examine the claims for protection of industries making iron and steel products which do not come within the scope of the present Acts and to report whether having regard to the principles laid down in paragraph 97 of the Report of the Indian Fiscal Commission such claims should be admitted, and, if so the nature and extent of the protection that should be given.

2. Firms or persons interested in the iron and steel industry or industries dependent on the use of iron and steel, who desire that their views should be considered by the Tariff Board should address their representations to the Secretary of the Board ".

The Board's communiqué.

2. On the 4th September the Board issued the following Press Communiqué:—

" In the Resolution of the Government of India (Department of Commerce) No. 260-T. (8)/1933, dated the 26th August, 1933, the Tariff Board is directed to examine the extent, if any, to which it is necessary to continue the protection now granted to the steel industry and the manner in which any protection found necessary should be conferred. The Board is also authorised to enquire into the claim for protection which may be raised by any industries manufacturing iron and steel products which do not come within the scope of the existing scheme of protection. All representations intended for the Tariff Board in connection with this enquiry should be submitted (with six spare copies) so as to reach the Secretary of the Board at 1, Council House Street, Calcutta, not later than the 23rd September, 1933."

Industries from which representations were received by the Board.

3. In response to this communiqué the Board received representations from the Rolled Steel industry represented by the Tata Iron and Steel Company, from the Tinplate Company of India, the Bengal Iron Company, the Mysore Iron Works, and other Iron Foundries, and from firms interested in the following industries: Iron Pipes, Steel Pipes, Wire and Wire Nails, Steel Fabrication and re-rolling of steel. We also received representations from the Iron and Steel Industry of the United Kingdom including the National Federation of Iron and Steel Manufacturers, the Sheet Makers Conference and the Welsh Tinplate Manufacturers; and from many of the Indian Chambers of Commerce.

Visits.

4. In the course of the enquiry the Board visited the works of the Tata Iron and Steel Company, the Tinplate Company of India, the Indian Steel and Wire Products and the Tatanagar Iron Foundry at Jamshedpur, the Iron Works at Asansol and Kulti, the Iron Works at Mysore, the Hume Pipe Company at Bombay, and the Brick Works at Asansol, Raniganj and Kumardhubi. We wish to thank all the firms concerned and the Mysore Government for the courtesy with which we were received, and for the facilities given to us to make our enquiry as thorough as possible.

Oral evidence.

5. During the period 20th November, 1933, to 11th January, 1934, the Board took oral evidence in Calcutta and Bombay from most of those who submitted written statements. Lists of those who submitted representations and who gave oral evidence are given as Appendix Nos. I and II. The written statements and the oral evidence are published in separate volumes.

Acknowledgments.

6. We desire to acknowledge the services rendered by our Technical Adviser, Mr. C. G. Atha. His experience in organising and managing steel works and his intimate knowledge of the technical and commercial aspects of the Steel industry in other countries have been of the greatest assistance to us. In estimating the future costs of the Indian industry and in determining the directions in which improvements may be made, we have derived valuable guidance from his knowledge and judgment. At all stages of the enquiry—in the inspection of the works, in the examination of witnesses and in the drafting of the report—we have received from him the utmost cooperation and help. In enquiring into a complicated industry like steel, the services of the Technical Adviser are of particular importance to the Board, and we take this opportunity of expressing our warm appreciation of the manner in which Mr. Atha has discharged his difficult and responsible duties.

We desire also to refer to the assistance we have received from Mr. W. J. Ward of the Imperial Customs Service who was deputed, in the closing stages of the enquiry, to help us in framing the tariff schedule attached to this report. We wish to acknowledge the care and thoroughness with which he has examined our proposals from the Customs point of view.

PART I.

CHAPTERS II TO VIII.

Rolled Steel.

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CHAPTER II.

Review of the Present Scheme of Protection.

The benefit of protection.

7. We shall in this Chapter briefly pass under review the course of events since the Board reported in 1926, the effect on the basic industry of the scheme of protection, the growth of a re-rolling industry, and the working of the Ottawa Agreement, and consider the problem of the cost of protection.

We propose first to examine the extent to which the industry has benefited by protection. The Tata Iron and Steel Company has been at some pains in its representation to estimate the loss to the industry from what it calls the " breakdown of the Protective Scheme ". It seems worth while to examine in some detail the contention that the forecast of the Tariff Board has gone radically wrong.

The Company's statement of ' losses '.

8. We summarize the statement of the Company thus:—As used by the Company the word ' losses ' means the extent to which the surplus earned by the Company during the period of protection fell short of that estimated by the Tariff Board in 1926. The estimate of ' losses ' which the Company has prepared for the six years from April, 1927, to March, 1933, purports first to set out the additions which would have been made to the Company's profits if the c.i.f. prices of imported steel had remained as estimated by the Board in 1926, and deducts the compensatory factor of the 25 per cent. surcharge on all Customs duties. The nett loss during 6 years is put at Rs. 73 lakhs. The loss in demand for tested steel for engineering purposes is responsible for a loss of Rs. 33 lakhs. Additional freight disadvantages amount to Rs. 23 lakhs. The losses due directly and indirectly to the strike of 1928 are put at Rs. 220 lakhs. The nett loss on account of the fall in Railway orders is estimated at Rs. 160 lakhs up to March, 1933, and the general effect of the reduction of output due to this cause affected the general cost of steel by Rs. 3 a ton, resulting in an additional loss of not less than Rs. 67 lakhs. Certain excessive adjustments made by the Board in 1926 for landing charges, and some other minor causes are said to have reduced realisations by Rs. 58 lakhs. The gross total of these losses amounts to Rs. 567 lakhs; against which is to be set saving in coal prices of Rs. 2 crores, in spelter prices of Rs. 16⅓ lakhs and in the prices of general stores and supplies of about 10 per cent. It will be observed that the nett loss thus set out amounts to Rs. 350⅓ lakhs less the 10 per cent. reduction in stores (which we have estimated at Rs. 45 lakhs) while the nett shortage of realisations below the surplus estimated by the Board is put at Rs. 471 lakhs. The deficit unaccounted for amounts to about Rs. 165 lakhs.

Meaning of 'losses'.

9. In the first place it is to be noted that the comparative statement relates in particular to the years 1930-33, and we might perhaps claim with justice that no forecast in any industry in the world has been able to withstand the flood of depression which occurred during these years. It must be remembered that the surplus estimated by the Board included an addition on account of an 8 per cent. return on capital. In the circumstances with which we are dealing, it may well be doubted whether failure to obtain this return can legitimately be described as a loss. But much of the argument is weakened by the manner in which the 'losses' of the Company are set out. The assumption is made that but for the slump the Company would have realised higher prices, and at the same time have achieved lower costs. Now without attempting in any way to diminish the credit due for the more efficient working of the plant, it remains true that the lower costs have been to a large extent the reverse side of the depression, and reflect its effect on the cost of materials. It is incorrect for example to say that "the aggregate loss due to the fall of prices of steel is Rs. 73 lakhs". For the same fall in prices has reduced the cost of producing the steel. Consequently in spite of the reference to the total savings at the end of the argument the general impression is misleading.

The strike.

10. The losses include an estimate of Rs. 220 lakhs as due to the strike of 1929, and its subsequent effect on output. Exception must be taken to the inclusion of this figure in a statement purporting to estimate the effect of the breakdown of protection. The suggestion is made that the strike is partly due to the Company having attempted to carry out a recommendation of the Board that the number of employees should be reduced. We do not wish to minimise the danger to the industry of industrial unrest. But however great may have been the effect on the realisations of the Company we cannot admit that a consideration of the losses due to a strike of workers is directly relevant to a study of the working of a scheme of protection.

Fall in prices and demand.

11. The fall in the demand for steel products which has accompanied and is indeed the cause of the fall in prices is the outstanding feature of the past period of protection. The loss in orders from the railways for rails and sleepers, in addition to the actual loss of profit, has by reducing the total output prevented the Company from achieving some of the reduction in costs for which it hoped, and which we estimated in our last report. At the same time the general decline in demand has compelled the Company to dispose of its products in unfavourable markets. This factor is unfortunately an inevitable concomitant of the conditions of the industry in India, which by the caprice of nature is compelled to restrict its works to a single area on one side of the country. The further the markets are extended the greater the cost in freight, and the greater the disadvantage in competing with material coming from the various sea ports. So long as the extension is due to greater output

the additional cost may be met by the reduced charges of production; but when as during the past three years the extension has been forced on the industry by the falling off of demand in the favourable areas, it is true that the nett realisations must diminish.

Tested and untested steel.

12. The loss of demand for tested steel for engineering and other purposes is said to have reduced the estimated surplus by Rs. 33 lakhs. The change over in the public demand from tested steel to untested is partly due undoubtedly to a reduction in the building programmes of Railways, Governments, and local authorities. Recovery of this may be expected in due course. But apart from this we are informed that in the more ordinary forms of commercial steel the public has become accustomed to dispense with test certificates, and in the opinion of the Company is not likely to revert to the higher priced tested material to the same extent as before. Since the process of manufacture is identical the profit on the tested material is greater than on the untested, and to this extent the expected realisations have not been obtained. We shall refer to this point again in our proposals for protective duties.

Alleged errors of calculation.

13. The Company is in error in its assumption that the Board made a mistake in its calculations in Table XVII of the 1926 Report. It has been assumed that the adjusted price of Continental sections should have been Rs. 83 (*viz.*, Rs. 77 the figure given in Table XVI *plus* Rs. 6 the landing charges) instead of Rs. 86 as given in Table XVII. The explanation is that the Board in its Tables XV and XVI took beams as 'representative' of sections for the purpose of showing variations of price. While British beams and angles were of the same price, Continental angles were higher priced than beams. The average of the Continental prices of beams and angles (as quoted by Calcutta firms) was £6 or Rs. 80. So that the landed price of Rs. 86 shown was that accepted by the Board. This explanation covers Rs. 13 lakhs of the Rs. 58 lakhs 'loss' shown as due to excessive adjustments. In the matter of "landing charges, port dues, etc." the Board in 1926 arrived at an estimate of Rs. 6 for sections, plates, sheets and British bars by eliminating from the estimates of 1924 the charges for "importers' commission" and certain conditions peculiar to Calcutta. They added Rs. 2 to the charges on Continental bars on evidence which showed that on the average deliveries of Continental bars are 2 per cent. below the weight paid for. In regard to the latter point, while it is established that the margin claimed by Continental dealers "under or over" weight is not less than 2 per cent. there is some conflict of evidence as to the effect of this on the price. We have decided to make no allowance on this account in our future calculations. In regard to the landing charges proper it is generally accepted that the average charges of all ports amount to about Rs. 2-12, and we have accepted this figure.

Statement of profit and loss on the basis of Company's estimates.

14. We may now draw up a rough statement of profit and loss taking the Company's estimates as they stand:—

	Losses Rs. lakhs.		Gains Rs. lakhs.
1. Fall in prices	73	Fall in price of coal	200
2. Loss on tested steel	33	Fall in price of spelter	16
3. Additional freight	23	Fall in price of stores	45
4. Loss of railway orders	160		
Total	289		261
5. The strike	220		
6. Difference in landing charges, etc. (Rs. 58 lakhs less Rs. 13 lakhs)	45	Balance loss	293
	554		554

NOTE.—We have arrived at Rs. 45 lakhs as the saving on stores by deducting 10 per cent. from the figure of Rs. 75 lakhs per annum which the Company has given us as being approximately the consumption of stores, excluding spelter: Rs. 7·5 lakhs × 6 years = Rs. 45 lakhs.

It will be seen that the nett loss which may be set down to the fall in demand and prices amounts to Rs. 28 lakhs (Rs. 289—Rs. 261) or Rs. 4·66 lakhs per annum, a little over one rupee per ton of output. Omitting the loss due to the strike, the failure of the protective scheme is to be measured by the sum of Rs. 73 lakhs (Rs. 293—Rs. 220) or Rs. 12 lakhs per annum, about Rs. 3 per ton of output.

Losses unaccounted for.

15. But this is not the whole picture. The report of 1926 estimated that the surplus over the six years would amount to Rs. 1,220 lakhs (including the surplus on pig iron). The realisations amount to Rs. 749 lakhs. There is a deficit of Rs. 471 lakhs of which the profit and loss statement above accounts for Rs. 293 lakhs. There is left a sum of Rs. 178 lakhs, Rs. 29 lakhs per annum, unaccounted for. That is to say, apart from the deficit already explained, the Company has failed by this additional margin to obtain the prices which were determined by the addition of the duty to the prices of imported steel. The Company ascribes this deficit to the sales policy forced on it by circumstances, such as the need for introducing its wares into new markets, and for encouraging the use of its steel by subsidiary industries. To the extent to which these factors can be admitted for the future in considering the rate of protective duties, they will be dealt with when we come to determine the fair selling price of Indian products. To this extent there seems no other conclusion to be drawn than that it has been too readily assumed that the benefit of protection to the industry can be measured directly by the rate of the protective duty. Experience has shown that in the circumstances of a growing industry this assumption cannot be made,

and that there will ordinarily be a lag between the theoretical prices and actual realisations. To what extent this lag has been swelled by errors of judgment in the selling policy of the Company we are unable to estimate.

The remainder of the current period of protection.

16. This survey of the effect of protection on the industry would not be complete without a reference to the fact that the current scheme of protection does not end until October, 1934. The Company's calculations carry us to March, 1933. Since that date the prices of foreign imports have been steadily increasing and the works costs of the Company have been steadily decreasing. After deducting certain excess charges from the works costs we have arrived at an average real works costs for the first half of the year 1933-34 of Rs. 63·4 per ton of saleable steel. The additions to the Railway freights in the current year (1933-34) have added Rs. 20 lakhs or so to the costs. If we distribute this over the output of the year which we estimate at 510,000 tons the increased cost is Rs. 3·9 a ton. We put the revised average costs therefore together with increased freight charges in the current year at Rs. 67·3 per ton. If we assume that the average realisations will remain till October, 1934, the same as for the period January—June, 1933, *viz.*, Rs. 113·4 (probably an under estimate), the surplus over costs will amount to Rs. 46·1 per ton. The surplus required to meet the overhead charges and the full manufacturer's profit (Rs. 199 lakhs) is Rs. 39 a ton. The Company will therefore, if our anticipations are realised, obtain an additional surplus of Rs. 7·1 per ton, equivalent to Rs. 57·30 lakhs in the remaining period of protection to set against its '·losses '.

Summary.

17. We may now sum up this analysis of the Company's contention. There is a gap between the surplus realized by the Company over the works costs and the surplus anticipated by the Board in 1926, of Rs. 471 lakhs. The anticipated surplus assumed an output of 500,000 tons a year: the actual output averaged 404,000 tons up to 1932-33. The anticipated surplus also provided for interest of 8 per cent. on the capital valuation of the plant. It will be seen that the ' losses ' are calculated on what would have happened if the output had been greater, and if prices had not fallen, and if there had not been a strike. The premises on which the conclusions are based are hypothetical, and the calculations cannot be exactly verified. But it is a fact that, accepting the calculations as they are set out above, the Company by October, 1934, will have failed to realise the expectations of the Board to the extent of Rs. 414 lakhs, Rs. 69 lakhs per annum. In other words the Company will have made its full overhead charges of Rs. 100 lakhs (depreciation, interest on working capital, Agents' Commission, etc.), together with Rs. 31 lakhs a year as manufacturer's profit instead of the full Rs. 100 lakhs, equal to 2½ per cent. instead of 8 per cent. on the capital value of the plant. If there had been no strike the profit would have been 5½ per cent. 1½ per cent. of the balance

is due to the 'unexplained' causes, and 1 per cent. to the fall in prices and demand and to the estimate of landing charges adopted.

The share of the market obtained.

18. An important aspect of this question is the proportion of the Indian market which is now supplied by the Indian industry. In the year 1927-28 the Company's production was 429,000 tons and its share of the available market (*i.e.*, of the consumption of products similar to its own) was 30 per cent. In 1932-33 the output was 427,000 tons and the proportion had risen to 72 per cent. That is to say, the whole of the fall in demand has been borne by imported steel. This is no small achievement. Over the same period the works have steadily maintained an output roughly equivalent to 75 per cent. of their capacity. Few steel industries in the world have been able to maintain such an output. If we take the peak year (1929) as representing the output of the respective plants, the percentage of capacity of ingot steel produced in 1932 in the chief countries was as follows:—

	Per cent.
France	57
Germany	35
United States of America	24
United Kingdom	54
Belgium	68

During the six years from 1927-28 to 1932-33 the Company raised no fresh capital, but it was able to distribute Rs. 138 lakhs in dividends and to set aside as depreciation sums amounting to Rs. 400 lakhs. Of this Rs. 302 lakhs were spent on capital improvements or replacements of plant. So far as we have been able to ascertain from a study of balance sheets from France, America and England, the Company has been peculiarly fortunate in being able to set aside so large a sum for depreciation.

Possibility of other works being set up.

19. Many complaints have been directed against the "monopolistic attitude" of the Company. The attitude is one which of course is not unnatural in view of the fact that the Company is the sole producer of ingot steel in the country and it will be asked what has been the reason for the failure of the confident belief that protection would promote the erection of another steel works. The answer must probably be looked for in the course of the demand for steel and steel prices over the past quinquennium. In 1927-28 the consumption in India of the kinds of steel which the Tata Company produces, *i.e.*, of protected steel, was 1,402,000 tons. In 1932-33 the consumption had fallen to 574,000 tons. Over the same period the proportion of the demand supplied by the Tata Company rose from 30 to 72 per cent. In other words the demand for protected steel, available in the remoter markets of India for other

producers fell from 981,000 to 160,000 tons. It needs no further demonstration to show that a time such as this was not one to induce the investment of capital in the steel industry in India.

In regard to the future we may say that we regard it as a development greatly to be desired that steel production should not remain the monopoly of a single enterprise. It seems likely that the output of the re-rolling mills to which we shall presently refer will for a long time remain a relatively small proportion of the total output. And it must be remembered that they will be dependent for their extension on the supply of raw material from the steel producers. At what figure can we estimate the future consumption of protected steel? We refer to protected steel because it is on this branch of production that any new works must chiefly rely in its initial stages under the system of discriminating protection that we follow in India. We take the year 1929-30 as a typical year, to which we believe the demand in the near future is likely to conform. The consumption in that year of protected steel was 1,078,000 tons. This is a little more than the average of the past 10 years and we prefer to take it as more correctly representing what we may call a normal demand. With the Tata maximum output estimated at 650,000 tons we have a balance of over 400,000 tons, as the extent of the protected market available for a second works. This is irrespective of any extension of the uses of steel which we are informed may certainly be expected. Without being rash enough to prophesy, we may reasonably hold the view that there is room for another steel works, and that the success of the Tata Company should be sufficient to encourage the establishment of another. If, moreover, as would seem to be the normal course of events, any new enterprise turned its attention to products not manufactured by the Tata Company, there is in addition to the 400,000 tons of protected steel the market at present unprotected, in which the imports amounted in 1929-30 to some 250,000 tons.

The fact that any new enterprise for the production of steel must build its works in the coal and iron ore area of Bihar, that is to say in the near neighbourhood of Jamshedpur, will undoubtedly raise complicated problems of its relationship to the Tata Company and the division of markets. It would however be premature for us to discuss any problem of this kind in detail. Such problems may have the effect of delaying considerably the establishment of an additional works of this magnitude. Meanwhile we have springing up in various parts of the country a number of re-rolling mills.

The re-rolling industry.

20. We have received representations from re-rolling mills at Calcutta, Benares, Ghaziabad, Cawnpore, Lahore and Negapatam. At the last place, the mill is not yet in operation. With the exception of the Calcutta re-rolling mill of Messrs. Henry Williams, the Indian Wire and Steel Products Company's mill at Jamshedpur and the mill at Kumardhubi which is a re-rolling

mill in close co-operation with the Tata Company, the industry is very new and inexperienced, and for the most part poorly equipped. At present, they re-roll scrap material only, being useful in consuming scrap from the railways, and manufacture merchant bars, and some plates and flats for the bazar and for agricultural implements. Their total output does not at present amount to more than a few thousand tons. So far as they use scrap only, they can have no permanent future. Their product is not of high quality, the quantity of scrap available is strictly limited and already the demand is raising the price. They are able to compete in the market to-day, because although their conversion costs are high, their overhead charges are low. It is reasonably certain that they must improve or be absorbed by the more efficient mills that will re-roll billets in addition to scrap. We may divide the re-rolling industry into two classes (i) the mills that roll ordinary sections only and (ii) those that rely mainly on special sections but will require to roll ordinary sections also in order to keep their mill in full working. The latter class to-day constitutes the more important though less numerous section of the industry.

Competition with Tatas.

21. Class (i) comprises all the up-country mills to which we have referred. The extension of the Tata Company's markets into remote parts has brought the Company into sharp competition with these small works, and we have received numerous complaints against the methods employed by the Company in pushing the sale of its own bars at the expense of these local rivals. We have no doubt that within their small compass these re-rolling mills have been able to make their competition felt; and in the effort to find new markets the Tata Company has followed the practice of big industry in other parts of the world and has reduced prices below the true commercial level. We have hinted that this is one of the causes of the excessive cost of the Company's sales policy. Some other practices against which complaint has been made were confined to isolated instances and the Company informs us that they will not be adopted again. We believe that, as in England and elsewhere, there is a place for these re-rolling mills in a well organized industry, and that the growth of a re-rolling section of the industry capable of dealing with small orders, even of steel products which may compete with the output of the main steel producing works, will be a natural and desirable outcome of the present tendency. The second class of re-rolling mills to which we have referred is represented at present only by Messrs. Henry Williams' mill at Calcutta and the mill of the Indian Steel and Wire Products Company at Jamshedpur. We shall have occasion to deal with both of these mills in later chapters. Both will depend chiefly on the rolling of special or smaller sections which are not manufactured by the Tata Company, and in order to keep their mills working at capacity will require from time to time to roll ordinary sections and may thus come into competition with the major industry.

Relationship between Tatas and the Rolling Industry.

22. Now the Company has laid stress on its desire to encourage nascent subsidiary industries, and obviously realizes the importance of developing new outlets for Indian steel. We therefore all the more deprecate the attitude which it has in the past been inclined to take towards these minor children of the industry. They have been enabled to take root under the shelter of protection, and we do not accept the argument that because they may be compelled, in the absence of an adequate supply of raw material from the major industry, to import part of their raw material as a temporary measure, they are therefore not entitled to claim any consideration as an Indian industry. Nor can we accept as reasonable the demand of the Company that if they are supplied with billets the minor industry should be precluded from rolling sections which will compete with the products of the basic industry. As we have said, we believe that there is scope for the smaller mills in supplying part of the balance of demand, and that they can play their part in overcoming what is certainly the gravest handicap to-day of the Indian industry, the difficulty of distribution.

The Company has claimed protection of semi-finished products in order to prevent the competition of these re-rolling mills, using foreign steel, on the ground that this competition will reduce the output of the basic industry. We see no valid ground for this fear, but on the contrary consider that the Company as the sole representative of a protected parent industry has under-estimated its responsibility to the smaller industry in the matter of the supply of raw material. It must not be forgotten that the large sums which have been found both from public funds and in the form of protective duties for the support of the steel industry, while deliberately devoted to the establishment of a strong basic industry, were never intended to create a monopoly; and if circumstances have combined to create a monopoly, then there is the greater need of insisting on the Company exercising its power in the interests of the industry as a whole. In its selection of nascent industries for encouragement we feel that the Company has perhaps not unnaturally interpreted the interests of the Steel industry as being the interests of the Tata Company. There may remain within the area of the local markets a conflict of interests between the basic and this minor industry, particularly when demand is so low as at present; but we see no reason why if the English industry has been able to come to an agreement for the regular supply of raw material to the re-rolling mills, a similar arrangement should, without any sacrifice of the shareholders' interests, be impossible in India—an arrangement which would incidentally provide an increasing outlet for the Company's production of steel. So far as we can judge from the Company's programme, there should be available a surplus production of billets amply sufficient for the present needs of the re-rolling industry. We recognize however that there will be great difficulties in present circumstances, and with the minor industry so unorganized, in the way of individual agreements, and our proposal for the free entry of billets (paragraph 114) is intended to ensure a cheap supply to the minor industry in the event of the basic Indian industry being unable or unwilling to supply its requirements.

Complaints against Tata's sales policy.

23. We would not have it thought that we accept at their face value all of the complaints made by the re-rolling mills and dealers against the sales policy of the Company and the methods the Company has followed in the efforts to introduce its products into new markets, such as the agreement which binds Tata dealers to deal only in Tata products. This is a not uncommon form of agreement, and provided that it is relaxed, as the Company assures us it is, readily to meet individual circumstances, we see no objection to it. The complaint of the Calcutta merchants that they have been converted from independent merchants into mere shopkeepers, we are afraid, is an inevitable consequence of the introduction of protection which has enabled the Indian industry to capture so large a proportion of the market hitherto open to the foreign dealer.

Exportation of scrap.

24. The complaint that by the export of scrap steel, chiefly to Japan, the Company is assisting a foreign at the expense of an indigenous industry appears to be based on a misapprehension. The bulk of the scrap exported by the Company is not suitable for re-rolling, but only for re-melting; and consequently at present cannot be used by the re-rolling industry. There is undoubtedly a good deal of other scrap exported by dealers, but we have no reason to suppose that ordinary economic laws will not operate here, and that the material will not remain in India as soon as it pays the merchant to dispose of it in India. We certainly could not recommend the proposal to prohibit its export.

Railway freights.

25. A universal complaint, one that is placed beyond the scope of our terms of reference, but must be referred to because it looms so large in the representations from the merchant community relates to the freight concessions enjoyed by the Tata Company. In so far as these are anomalous, as they have been on the East Indian Railway, they are, we understand, already under the consideration of the Railway Board. But it is perhaps not commonly realized that the concessions which the Tata Company obtains are based for the most part on the ordinary commercial considerations which govern concessions on account of long lead, and full wagon or train loads. It is true that the Company's ability to offer exceptionally heavy traffic to the Railways and consequently to obtain special terms gives it an advantage over competitors: and this raises a problem which has not confronted the Board at previous enquiries into this industry. The circumstances of the industry compel the Board to judge of the measure of protection required by the conditions applicable to the Tata Company *vis à vis* the ports. The minor industry must grow under the protection afforded to the major. It is quite impracticable in determining the measure of protection to

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take into consideration the conditions of an industry so scattered and so unorganized as the re-rolling industry is at present. So far then as concerns the grievance of the industry in the matter of freights there is nothing exceptional in the position of the Iron and Steel industries. Similar conditions exist in all the industries of the country, and the problem is one with which we have no authority to deal. We hope that the recommendations that we are making for the provision of cheap raw material will eliminate to some extent the difficulties of the smaller works.

The Ottawa Agreement. Pig Iron.

26. We have examined the working of the arrangements for the sale of pig iron and galvanized sheets which resulted from the Ottawa Agreement. Detailed statements dealing with each of these arrangements have been submitted by the Tata Company. Briefly, it may be re-called that the free admission of pig iron into the United Kingdom was to be allowed, subject to an arrangement for the favourable tariff treatment of galvanized sheets imported into India. By the autumn of 1932 the duty of 33⅓ per cent. had effectively excluded foreign pig iron from the United Kingdom. The arrangement which took effect from November, 1932, allowed the free import of 30,000 tons per annum of Indian foundry iron: and 22½ per cent. of the requirements of the free market for basic iron, subject to a minimum of 70,000 tons a year. By agreement the supply of basic iron has been left to the Tata Company and of foundry iron to other Indian Companies. We have been informed by both parties to this agreement, English and Indian, that no complications have arisen during the first year of the working of the arrangement, and that it has not been necessary to put into force any of the measures required to ensure compliance with the quota or the minimum.

Basic Iron.

27. The sales of basic pig up to the 30th September, 1933 (11 months) amounted to 68,825 tons compared with 62,812 tons in the previous twelve months. The total for the year will be slightly above the stipulated percentage, and comply with the minimum agreed to. The manufacture of iron for sale has by increasing the total output also reduced the cost of iron made for the Company's own consumption.

Foundry Iron.

28. In regard to foundry iron, the Indian Iron and Steel Company was able to book the full quota during the first year, though the actual deliveries amounted to 24,000 tons. The price obtained has been about Rs. 24 a ton, about Rs. 3 a ton more than the basic iron. It is generally agreed that the arrangement has been of considerable benefit to the industry in stabilising prices.

Notice to revise Agreement.

29. The Tata Company has received 'friendly' notice from the industry in the United Kingdom that it desires to reconsider the terms of the agreement on the expiry of the six months' notice. The notice does not apply to foundry iron. We have no information which would enable us to discuss the agreement from the British point of view, but we have no reason to suppose that a

renewal of the agreement will prove impracticable. We refer to this question again in paragraph 107.

Galvanized sheets.

30. The agreements in connection with galvanized sheets have been far more complicated. The Ottawa Agreement provided, with effect from 1st January, 1933, for a duty of Rs. 83 per ton on sheets of non-British origin, Rs. 53 on sheets rolled in the United Kingdom from non-Indian bars and Rs. 30 on such sheets rolled from Indian bars. We are in this review interested in the agreement from two points of view; its benefit to the Indian industry and its effects on Indian prices, and consequently on the Indian consumer. The figure of Rs. 215 was fixed by the Ottawa delegation as being a price which would give adequate protection to the Indian industry. It was clearly understood that this price, subject to adjustment if the price of spelter rose, would afford adequate profit to the Company, and the report suggests machinery for preventing a combination of the two industries intended to raise the price above this level. This machinery was in the interests of the consumer, who had already been benefited by the reduction of the price of sheets to Rs. 215 from a general level of about Rs. 8 a ton higher during the previous six months. This effect on the general level of prices has been concealed by the market disturbances which immediately preceded and followed the passing of the agreement. The consequential arrangement with the British producers was unable to control the prices of a large quantity of sheets previously sold to Indian buyers, but not delivered and placed on the market till after 1st January, 1933, when the new duties came into force. For a time prices fell much below the level of Rs. 215. As soon as the control became effective prices rose above Rs. 215 and the average price of the first six months of 1933 was nearly Rs. 220. In view of the obligation of the industry under the Ottawa Agreement to maintain a price of Rs. 215 what is the explanation of this rise and the apparent neglect of the consumer's interests? Three rupees of it is due to an increase in the price of spelter. The balance which appears to have varied from 2 to 7 rupees is put down by the Company to the interpretation of the terms of the agreement with the Oriental Company, whereby landing charges have been left out of account, which have therefore to be added by the merchants to the quoted price. The report of the Ottawa delegation refers so clearly to the price of Rs. 215 being the "duty-paid price at port", which could hardly exclude the landing charges, that we are unable to follow how the misunderstanding can have arisen. Nor does the explanation cover the higher level of prices reached. The fact remains that prices substantially higher than Rs. 218 have been effective in the market and so far as we know no action has been taken by Government as suggested in paragraph 84 of the report of the Ottawa delegation to control the rise.

The Trade Agreement.

31. The consequential agreement of the Tata Company with the Oriental Steel Company (representing British producers) provides that until the full output of the Company's works including sheets made in England

from Indian bars has been marketed, no British sheets shall be sold and that the British manufacturers shall use Indian steel for the manufacture of sheets for India subject to a maximum of 7,000 tons a month. The actual tonnage of bars despatched is to be regulated in accordance with the Company's estimate of the Indian demand. The sheets made from Indian bars remain the property of the Tata Company and the price is regulated by the Company. The price in India of British sheets is the subject of mutual agreement which provides that unless previously agreed with the Tata Company the price shall be on "c.i.f. duty-paid basis" and that no sales shall be made less than the minimum price of Rs. 215 subject to variation in accordance with the price of spelter. This agreement has proved in practice difficult to work. It has been stated that the Indian bars supplied are not always suitable in size for the requirements of British manufacture in all the gauges made: and the Company has not found it easy to regulate the distribution of the sheets made in the United Kingdom from its bars. Other temporary complications arose from the effect on the market prices and demand of merchants anticipating the agreement. As a consequence the despatch of bars to the United Kingdom will not average more than about 2,500 tons a month, 36,000 tons in all, for the period ending 31st March, 1934, instead of the 7,000 tons a month anticipated. The Company has estimated the nett profit it has made out of the arrangement at Rs. 2½ lakhs up to March and a further Rs. 2½ lakhs was expected from an extension of the arrangement to September, 1934. These figures will be reduced by about Rs. 1 lakh owing to the increase in railway freights. On the other hand in estimating its nett profit the Company has included in the losses it incurred owing to the disturbance of the market referred to above, a sum on account of the difference between the reduced price effected by the Ottawa Agreement and what it estimates would have been the market price if no price had been fixed in that agreement. Seeing that Rs. 215 was made the basis of the whole agreement on the ground that it gave an adequate return to the Indian industry, we doubt if this computation of loss can be accepted. The additional output to which the agreement has given rise has also contributed an indeterminate amount to the reduction in the cost of all other steel.

Changed circumstances in the Industry.

32. Now the circumstances in the steel trade which led to the Ottawa Agreement have changed considerably since 1932. The justification for the *primâ facie* uneconomic procedure of sending steel across the world to be converted and returned in the shape of finished goods was the need of finding an outlet for the Indian material at a time when the imposition of a tariff in the United Kingdom was shutting out the supply of Continental sheet bar. The need of the Indian industry for this particular outlet for its steel (we are not referring now to the export of surplus pig iron) no longer exists to the same extent. The Tata Company has greatly extended its capacity for the production of sheets, and in the growing re-rolling industry it has ready

to hand another outlet for its production of steel. Moreover, our estimates of fair selling prices, and consequently our recommendations for protective duties will make it impracticable for the Indian industry to send sheet bar to the United Kingdom and sell the converted product at a profit. On the other hand, the representatives of the British industry have informed us that for their part they have no particular reason to press for a renewal of this agreement. Our conclusion is that by the end of the existing term of protection the arrangement will have served its purpose. In spite of the difficulty of carrying out its provisions it has been of benefit both to the Steel Company and to merchants in stabilising prices; but a renewal of the agreement in its present form will be impracticable.

Cost of protection.

33. We have examined in some detail the effects of protection on the industry. It remains to consider whether any estimate is possible of the cost of protection to the country. It is desirable at the outset to draw a distinction between the cost of protection and its burden on the country. The Tariff Board is assisting in the administration of a settled policy, which was determined by the legislature on consideration of general benefits to be ultimately purchased at a certain cost. It is not for us to compute the sum of these general benefits which are to be set against the cost, and to attempt to draw up as it were a balance sheet of the assets and liabilities of the scheme. But we think it would not be without interest to assess the cost, if it were possible to put this into terms of money. With this in view, we attempt to analyse the problem.

Shares of cost.

34. The cost of protection is shared by all or some of the following four parties:—

(*a*) Foreign manufacturers and other foreign interests;

(*b*) Indian merchants and distributors;

(*c*) Consumers in India;

(*d*) Taxpayers in India.

Assuming that general trade conditions remain unchanged after the imposition of duties, the cost in any given year is to be measured per unit of each product by the difference between the c.i.f. price *plus* the protective duty and the c.i.f. price *plus* the normal revenue duty. The share of the cost, if any, which is borne by the foreign interests is measured by the difference in the c.i.f. prices before and after the imposition of the protective duty. The balance of the cost is shared between middlemen and ultimate consumers. The gross cost to the country is this balance multiplied by the consumption as it existed before the protective duties were imposed. That is to say any fall in consumption due to the higher price must be counted as part of the cost. This total must be increased or diminished by the difference between the average figure of imports multiplied by the normal revenue duty and the subsequent figure of imports multiplied by the protective duty. This will measure the cost or relief to the ordinary taxpayer. When the imposing of protective duties does not result in a reduction of imports the increased duties are a direct relief to the general taxpayer, but the effect is a redistribution of the burden of taxation at the expense of the consumer of steel. That is to say, there is a difference between the cost of protection to the consumer and the cost to the State. The consumer pays the whole of the difference between the new price and the old price. But part of that price goes to the State in the form of duties, and if the gross receipts from the duties are greater than before then State revenue does not suffer. If the volume of imports decreases (the inevitable effect of duties intended to protect a native industry) the revenue may also suffer. The cost to the general taxpayer will then be measured by the loss in revenue which he is required to make up, together with any part of the increased price which the consumer of steel is able to pass on in the form of higher prices for other articles.

Complications due to Trade Depression.

35. This brief exposition of the theory assumes unchanged conditions of trade, except such as may be directly due to the introduction of protection. But the problem has become immensely more complicated by the action upon Indian prices of the world-wide trade depression. The effect of protection upon demand and import prices has been greatly enhanced by the general depression, and it is impracticable to distinguish the one factor from the other. We might attempt to estimate the average fall of prices in unprotected steel articles, but these also have been subject to changes of Customs duty, and it would be unsafe to base any broad assumption on these prices as applicable to the basic industry. Nor would it be safe to take figures from any other country. The United Kingdom, the last stronghold of free trade, has now been affected by tariffs and trade agreements.

Customs figures.

36. We can therefore do no more than set out the figures we have obtained, and state that any conclusions to be drawn from them must be subject to all the qualifications that we have referred to above. The total additional revenue derived by Government from protective duties between 1924-25 and 1932-33 amounts to Rs. 982 lakhs. This figure has been arrived at by multiplying the quantity of protected material imported by the difference between the protective duties and the duties as they would have been on a revenue basis. The benefit derived by the Tata Company from protection by duties only is estimated at Rs. 446 lakhs. This figure has been calculated by multiplying the production by the difference between the protective duties and the duties as they would have been on a revenue basis. They have in addition received from the State bounties (paid from the increased revenue) amounting to Rs. 208·8 lakhs. We might therefore put down the gross cost of protection to the consumer as Rs. 14,28 lakhs, *viz.*, the sum

of the additional prices paid for imported steel and Indian steel. But against this are to be set the counterbalancing factors:—

(1) we do not know what would have been the price of steel in the absence of an Indian industry. It is possible that prices in an unprotected Indian market might have been equally high, though we think that with world prices falling the balance of probability is against this;

(2) nor do we know the extent to which import prices have been reduced in consequence of the duties;

(3) it is reasonable to suppose that if the additional revenue from protective duties had not been obtained it would have been raised from some other source. Consumers of steel would then have shared the burden with other taxpayers.

The sum of Rs. 14,28 lakhs does not of course represent the cost to the country for the reasons we have tried to enumerate. We cannot estimate accurately what the Customs revenue would have been without the protective duties; nor are we able to calculate the benefits of increased employment and railway traffic. And the figure takes no account of the profits of the industry and subsidiary works and receipts from taxation thereon.

Consumption of Galvanized sheets.

37. We wish to make special reference to the effect of protection on the commodity which is of particular importance to the agricultural community, galvanized sheets. This is an article the consumption of which is peculiarly sensitive to price variations. The consumption fell from a peak of 338,000 tons in 1927-28 to 115,000 tons in 1932-33. No other article of commercial steel fell in anything like the same proportion. We have drawn up a graph, which will be found as Appendix No. III, indicating the relation of consumption to the prices of the sheets and of agricultural produce. The graph appears to us to show very clearly that the main cause of the recent great drop in the demand for sheets lies in the fall of agricultural prices and recovery of demand can only come with a rise in these general prices. The reduction in the price of sheets which should result from our recommendations will assist in the recovery.

CHAPTER III.

Present and future works costs.

Works costs.

38. The first step necessary to enable us to estimate the duties required to protect the Indian Steel industry is to ascertain the works costs which fairly represent the total cost of materials, labour, supervision and power required to manufacture the various steel products now made in India. In order to do this we have examined the detailed cost sheets of the Tata Iron and Steel Company for the six months January-June, 1933, which was the latest period for which completed figures were available at the opening of our enquiry and find that the costs as shown by these in the various departments are as follow:—

TABLE I.

	Per ton. Rs.	
Coke	7·78	
Iron	18·62	
Open hearth ingots	40·91	Average cost of ingots open hearth 30·7 per cent., Duplex 69·3 per cent., Rs. 37·22.
Duplex ingots	35·58	
Blooming mill (blooms)	42·84	
Blooming mill (slabs)	45·58	
Sheet bar and billet mill	48·92	
New 28″ rail and structural mill	63·25	
Old bar mill	93·26	
Merchant mill	64·61	
Plate mill	73·44	
Sheet mill	95·78	

We have shown the cost of coke produced at the Company's coke ovens at Jamshedpur to be Rs. 7·78 per ton. These ovens however cannot supply the total quantity of coke required by the blast furnaces and a quantity representing approximately 11 per cent. of the total amount used is bought at an average price of Rs. 10·5 per ton. The actual over-all average cost of coke is Rs. 8·08 per ton.

Furnace re-building Funds.

39. Included in the cost sheets for the coke oven, blast furnace and steel furnace departments are charges at certain rates per ton of output for 'funds' accumulated to provide for the periodic re-building of the brickwork and other portions of the ovens and furnaces. It is accepted practice to include such charges in iron and steel works costs and there can be no objection so long as over a reasonable period the totals of the sums so charged correctly represent the amounts expended. The Tata Iron and

Steel Company in its representation draws attention to the fact that at present these charges are too high and suggests lower figures which from its past experience it considers would yield the correct sums. We have obtained details of the actual expenditure in the various departments which can properly be debited to these funds over the past seven completed years and the following table shows the rates per ton of output charged in the cost sheets at present, the rates proposed by the Company for the future and those which we consider should be adopted including the provision for renewal of ingot moulds and stools which are used in the open hearth and duplex departments:—

TABLE II.

	Rate per ton of output charged at present.	Rate proposed by the Company.	Rate adopted by the Board.
	As.	As.	As.
Coke ovens	2	1	1
Blast furnaces	12	8	8
	Rs.	Rs.	Rs.
Open hearth	5·5	5·5	2·0
Duplex plant	2·5	2·0	2·0
Ingot moulds and stools .	1·2	0·7	0·5

From these figures it will be seen that we accept the Company's proposals for reduced charges to be made in the coke oven, blast furnace and duplex department costs but make a substantial reduction in the rate proposed for the open hearth department and a relatively small reduction in the charge for renewal of ingot moulds and stools.

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High costs in open hearth department.

40. The high charge made at present in the open hearth department, which the Company proposes should be continued, is due primarily to the obsolete design and construction of the furnaces, making necessary frequent and costly repairs, and not to the quality or prices paid for bricks and other refractory materials. The actual amount expended from the fund over the past seven years is equivalent to Rs. 5·2 per ton of output but we feel we cannot accept this charge in arriving at the proper costs on which to base our estimates of the duties which should be granted to the industry. In our opinion the provision per ton should not exceed Rs. 2, a sum which covers the cost in the duplex plant where bricks and materials of the same quality and bought at the same price are used, but the furnaces are of much more modern design. The charge of Rs. 2 would require to be reduced still lower, were the price of refractory materials to fall. We do not however in our calculations assume that the price is likely to fall. We assume that the open hearth plant will be rebuilt on modern lines, the cost thereof being a charge on the depreciation fund, as proposed in the Company's programme. The Rs. 40

lakhs there provided would not be sufficient, but it is believed that the addition of the Rs. 30 lakhs proposed for a brick and slag cement works would provide an efficient open hearth plant of the required capacity. We deal at greater length with this question in paragraph 78. The inefficiency of the open hearth department was recognised in 1926 and although certain improvements suggested by the Company at that time have been carried out, the results obtained are unsatisfactory.

Cost of ingot moulds and stools.

41. From the figures supplied showing the actual cost of renewal of ingot moulds and stools during the past few years we find that a Charge of Re. 0·5 should be sufficient. Ingot moulds and stools are made in the Company's own foundry and are cast direct from hot metal supplied from the blast furnaces at a low cost.

Reduction in cost of metal.

42. The reduction in the charge for the re-building fund in the coke oven costs will of course reduce the cost of coke which will in turn reduce the cost of iron. The cost of iron will also be directly affected by the reduced charge in the re-building fund for the blast furnaces. This reduction in the cost of iron combined with reduced charges for re-building funds of the steel furnaces and for renewal of ingot moulds and stools will reduce the cost of steel ingots made in the open hearth and **duplex departments.** The final effects of the reductions are shown in the following table:—

TABLE III.

	As per cost sheets.	Reduction.	Corrected Costs.
	Rs.	Rs.	Rs.
Coke (average including bought)	8·08	·05	8·03*
Iron	18·62	·31	18·31
Open hearth ingots . .	40·91	4·34	36·57
Duplex ingots . . .	35·58	1·57	34·01
Average ingots . .	37·22	...	34·79

Reduction in cost of rolled steel.

43. As ingots are charged to the rolling mills at cost this reduction in the average cost of ingots will effect a reduction in cost of all rolled products, the effect in the case of each being in proportion to the weight of metal in ingot form required to

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* The reduction of 1 anna per ton at the coke ovens will only apply to 89 per cent. of the total coke used.

1 anna = Re. ·0625 × ·89 = Re. ·05.

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make one ton of saleable product. In addition to this reduction due to a lower cost of metal, the cost of rolled products will be affected by lower charges for maintaining rolls. At each mill a charge is made in the cost sheets for this purpose and here again the figures are higher than shown to be necessary by past experience. Reduced charges have been proposed by the Company which appear to us to be reasonable and which we therefore accept. The present charges and those now proposed are as follow:—

TABLE IV.

	Funds for maintaining rolls.	
	Present charge.	Proposed charge.
	Rs.	Rs.
Blooming mill	0·2	0·2
Sheet bar and billet mill	2·0	1·2
New 28″ mill	3·0	2·0
Old bar mill	3·0	2·0
Merchant mill	3·0	2·0
Plate mill	2·0	1·2
Sheet mill	4·0	3·0

In the blooming mill costs there is a charge equivalent to Re. ·187 per ton for re-building the soaking pits. The Company agrees that this is not required. The sheet mill costs include a charge of Rs. 3 per ton of sheet for a fund to cover the cost of renewing annealing boxes. The Company proposes that this should be reduced to Rs. 2, but from figures showing the actual cost over the past three years Re. 1 per ton of sheet is shown to be a sufficient charge and we adopt this figure. The plate mill costs include a charge of Rs. 2 per ton for the renewal of the mill tables: this in our opinion should not have been included in the costs and has been deducted.

Increased credit for saleable scrap.

44. There is still another adjustment to make in the costs in connection with credits for scrap arising at the rolling mills; the whole of this is credited at its value for re-melting. The bulk is returned to the steel furnaces for that purpose but a substantial quantity suitable for use by small industries is sold at a price considerably higher than its value for re-melting and the mills producing it should receive credit for its real value. The quantities of such scrap which can be sold and the prices obtainable vary widely from time to time and although during some periods a higher credit could be claimed we accept a figure equivalent to about Re. 1 per ton of saleable steel as suggested by the Company. A uniform credit would not apply however as much more saleable

scrap is produced at some mills than at others. The costs at the various mills are affected in the following manner:—

TABLE V.

Increased credit due to sale of scrap.

	Rs.
Blooming mill	...
Sheet bar and billet mill	0·10
New 28″ mill	0·42
Old bar mill	1·18
Merchant mill	1·40
Plate mill	3·90
Sheet mill	2·30

In producing rails a proportion of the output is of second class quality due to minor surface defects which make them unacceptable for use on main line railways: some of these are sold at prices above the works costs for railway sidings and other purposes. They are also of use to the Company for railway lines and sidings within its own works, mines and collieries. These second class rails have not been included in the output of the 28″ mill in ascertaining the costs as shown on the cost sheets. We consider that they should be included and have adjusted the figures accordingly.[*] In so far as all these matters are in the nature of overcharges or inadequate credits the cost sheets which include them do not show the true costs. By making the necessary adjustments we arrive at the costs on which we consider estimates of probable future costs should be based. For the mills on which the saleable products are rolled the figures are:—

TABLE VI.

	Cost as per cost sheets.	Total reductions.	Adjusted costs.
	Rs.	Rs.	Rs.
Sheet bar and billet mill	48·92	4·06	44·86
New 28″ mill	63·25	4·89	58·36
Old bar mill	93·26	6·74	86·52
Merchant mill	64·61	6·75	57·86
Plate mill	73·44	10·87	62·57
Sheet mill	95·78	10·24	85·54

Converting these adjusted costs by departments into costs for the products with which we are concerned, we get the following figures on which we base our estimates of probable future costs. The costs on the basis of the monthly cost sheets are shown for comparison:—

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[*] This has a similar effect to crediting the second class rails to the mill at their real value instead of the low value of remelting scrap at which they have been credited and for this reason we do not consider it necessary to adjust the figure arrived at for the fair selling price of rails in Chapter V.

TABLE VII.

	Cost of products as per cost sheets. Per ton.	Adjusted cost of products. Per ton.
	Rs.	Rs.
Rails	64·80	56·00
Fishplates	93·20	86·52
Structural sections	65·90	60·00
Bars	64·61	59·63
Plates	73·44	62·57
Tinbar and billets	48·92	44·86
Black sheets	95·78	85·54
Galvanized sheets	125·78	115·54
Sleepers	59·82	55·86

Conditions of working during period January-June 1933.

45. During the period January-June, 1933, the output of steel products was at the rate of 466,600 tons per year as compared with a maximum possible capacity estimated at 675,000 tons. The whole of the plant referred to as the Greater Extensions in the Board's Report of 1926 was in operation, including the third tilting furnace for the production of steel by the duplex process and other additions contemplated at that time with the exception of a plant for the recovery of benzol which has not yet been installed. The only departments of the old steel works in operation were the bar mill and the open hearth plant. Both these are relatively very inefficient.

Old Bar Mill.

46. As only 6·5 per cent. of the total output of bars was rolled on the old mill at a cost of Rs. 86·5 per ton as against 93·5 per cent. on the new merchant mill at Rs. 57·8 per ton, the effect on the average cost of bars was small.

Tariff Board's estimates made in 1926.

47. The substantial reductions in costs of saleable steel products anticipated by the Board in 1926 have in nearly every case been fully realised. The average price of coal which was assumed for the period 1926-27 to 1933-34 was Rs. 8 per ton. The actual average price paid by the Company was Rs. 5·75 per ton for the six years ending March 31st, 1933. There has been a further fall in price. For the first six months of 1933 the average price was Rs. 5·21 per ton and in October it was less than Rs. 5. The price of spelter was assumed at Rs. 555 per ton but this has now fallen to Rs. 235. This of course materially reduces the cost of manufacturing galvanized sheets which is the only product on which it is used. The following table shows the works costs in August 1926, the cost which the Board estimated in 1926 would be attained during the year 1933-34 with coal at Rs. 8 and spelter at Rs. 555

per ton, the Board's estimate with coal and spelter adjusted to coal at Rs. 5·21 and spelter to Rs. 235 and also the actual costs as now ascertained with coal and spelter at these prices:—

TABLE VIII.

Works costs.

	Costs in August, 1926. 1	Board's estimate in 1926 of costs 1933-34 with coal at Rs. 8 and spelter at Rs. 555. 2	Board's estimate with coal and spelter at Rs. 5·21 and Rs. 235. 3	Adjusted costs January-June, 1933. 4
	Rs.	Rs.	Rs.	Rs.
Rails . . .	79·60	61·60	52·80	56·00
Fishplates . .	116·40	90·00	81·20	86·52
Structural sections .	105·30	69·10	60·30	60·00
Bars . . .	99·00	77·00	68·20	59·63
Plates . . .	103·30	80·30	71·50	62·57
Tinbar and billets .	71·40	55·40	46·60	44·86
Black sheets . .	164·00	122·00	113·20	85·54
Galvanized sheets .	263·70	200·00	163·80	115·54
Sleepers . . .	...	72·00	63·20	55·86

It will be seen from these figures that the present costs are materially below those predicted by the Board in 1926. If the Board had foreseen the remarkable fall in price of coal and spelter which has taken place, their estimate would have been as shown in the third column of figures and in this case the present costs would still be lower than the estimates except in the case of rails and fishplates. The cost of producing rails and fishplates has been affected by the serious falling off in orders as compared with the quantities anticipated by the Board in 1926. Their estimate of costs was based on an output of rails of 195,000 tons per year whereas the orders from the railways have fallen to an average of less than 50,000 tons during the past three years with a corresponding reduction in orders for fishplates. Had it not been for this comparatively small demand for rails and fishplates, there is little doubt that the cost of these products would also have been below that estimated by the Board with the adjustments made in the price of coal. In view of all the facts it seems clear that the improvement in the efficiency of the works which was anticipated by the Board in 1926 has been fully realised.

Future costs.

48. Further reductions in costs are certainly possible. The first matter to be considered that should reduce costs in the yield of good material at the rolling mills.

Yield from rolling mills.

49. There is a certain percentage of waste in the process of rolling steel the bulk of which arises from the necessity of cropping off the unsound or irregularly shaped ends formed on the material during rolling.

These crop-ends must be returned to the furnaces as scrap for re-melting or sold at prices much below the price of sound material. The percentage of scrap arising at the Tata Iron and Steel Company's mills is higher than in normal practice and consequently the yield of good material is lower than should be the case with the result that the costs are adversely affected. In estimating future costs we have assumed that the practice will be improved and that the yield will be brought up to figures corresponding to average results obtained in British works. No question of capital expenditure is involved and by close supervision and attention to detail operations a reduction in costs due to improved yields should be brought about in a relatively short time.

Old open hearth furnace plant.

50. As previously mentioned, the costs of producing steel in the open hearth department are high. This is due to the obsolete design of the furnaces and plant generally. Alterations to some of the furnaces and the new gas producers installed since the Board's report in 1926 have shown some improvement but the high cost of maintaining the furnaces and the excessive amount of fuel required as shown by the cost sheets clearly indicate the necessity of replacing this plant. We have assumed that the cost of open hearth ingots will be reduced during the next seven years so that they will not cost more than the ingots made in the duplex plant.

Coal consumption.

51. In 1925-26 the consumption of coal per ton of rolled steel produced was 4·09 tons and the Board considered that this figure should be reduced to 3·14 tons by the year 1933-34. The complete figures for this year are not yet available, but for the year 1931-32 the figure was 3 tons and for 1932-33 it was 2·87 tons from which it will be seen that the Board's expectations have been more than fulfilled. A further reduction is however possible and after discussion the Company's officials have agreed that by the end of a further period of seven years the consumption of coke per ton of iron should be reduced from the present figure of 1·12 tons to 0·9375 ton and that the consumption of coal in addition to that required for producing coke should be brought down to 0·6 ton per ton of finished steel. On this basis, taking into consideration the quantity of iron used to make one ton of steel ingots and the weight of finished steel which should be produced from one ton of ingots, we arrive at a total figure of 2·21 tons of coal per ton of saleable steel and we adopt this figure in estimating the probable cost of rolled steel products for the year 1940-41.

Prices of coal, ore and fluxes.

52. The average price per ton of coal paid by the Company over the six years ending March 31st, 1933, was Rs. 5-12 and in October, 1933, the price was less than Rs. 5 per ton delivered at Tatanagar. It is obviously impossible to forecast with any certainty the fluctuations which will take place in the price of coal over the next seven years. Most of those whom we have consulted agree that present prices are unremunerative to the coal companies and it

seems unlikely that they can be continued over a period of years. The Tata Company has suggested that the average price over the past six years be adopted as the probable average price over the period to be covered by our estimates. The present price is considerably below this figure and will be maintained for some time by existing contracts. While we anticipate that prices will advance within the period of seven years, we do not think that the rise will be sufficiently rapid or will reach a figure high enough to give an average of Rs. 5-12. We have consulted the Chief Mining Engineer to the Railway Board who has stated that in his opinion the following prices would be fair to both buyers and sellers:—

	Rs. A.	Rs. A.
Deshergarh (gas coal)	4 12	
Super Jharias (coking coal)	4 12	
Selected Jharia (coking coal)	4 0 to	4 8

We estimate that with the proportions of the different qualities used these are equivalent to a flat rate of Rs. 5-12 delivered Tatanagar and we have adopted this figure in estimating the final costs we expect to be achieved by the Company in the year 1940-41. The increased railway charges which the Company now has to pay are not taken into account in this figure but an adjustment is made in our final estimate of costs in 1940-41 and costs over the intervening period to cover these. Except for the effect of increased railway charges we see no reason to anticipate an alteration in the cost of ore and fluxes which materials are obtained from the Company's own mines and quarries.

New sheet mill unit.

53. During the first half of 1933 the Company put into operation a sheet mill of new design and improved lay-out. The cost of sheets was not influenced to a great extent during the period, but costs now available show very considerable reductions as compared with those for the older mills. It is proposed to instal a second new unit at an early date and we have assumed that with this in operation 60 per cent. of the total output of sheets will be produced on these two new units at a cost materially below the costs attained on the older mills. We have also taken into account the fact that it is proposed to use wider and thinner sheet bar which will have the effect of reducing the work to be done and the costs at the sheet mills.

Galvanized sheets.

54. The chief item of cost involved in producing galvanized sheets from the black steel sheets is the price paid for spelter. The price of this is controlled by a world cartel and is at present established at Rs. 235 per ton. We see no reason to anticipate material fluctuations over the next few years and in any case an alteration in price will almost certainly affect all producers of galvanized sheets equally. We have assumed a price of Rs. 235 per ton throughout the period of seven years as proposed by the Tata Company.

Further general reduction in costs.

55. The reductions in costs which should result from improved yields at the rolling mills, efficient open hearth furnaces, the savings due to a reduction in the consumption of coal and the effect of new sheet mill units can be calculated. There are additional factors which will contribute to a further reduction in costs as the programme of improvements contemplated by the Company is carried into effect which it is impossible at the present time to calculate in detail but which we must take into account in order to arrive at the costs we anticipate for 1940-41.

New coke ovens.

56. It is proposed over the next seven years to replace the whole of the Company's coke ovens with new coke ovens of modern design and to add to the capacity so that it will be unnecessary to continue to purchase approximately 11 per cent. of its total requirements of coke at a price nearly Rs. 3 per ton higher than the cost of making it in its own ovens. The effect of this and of the fuel economy arising from the increased volume of coke oven gas which should be available from the new and the enlarged battery of ovens and the reduced consumption of coke expected at the blast furnaces has been taken into account in our calculations as given in paragraph 51 above. In addition to these savings there should be an appreciable saving in the cost of operating the new ovens both in labour employed directly on production and in maintenance and repair as very material improvements have been made in the design and construction of coke ovens and the machinery to operate them since the existing ovens were built. Any reduction in the cost of coke will of course be reflected in the cost of iron and in all the steel products made therefrom. The Company's proposals are not sufficiently advanced however to make it possible to estimate with accuracy the effect of the saving in labour due to the new coke ovens.

Blast furnace gas cleaning plant.

57. The installation of a gas cleaning plant for removing the dust from the blast furnace waste gas is well advanced and should be in operation during the present year. So far as this will affect fuel economy the benefits which should arise have been covered by our estimates. In addition to a saving in fuel a saving will be effected in labour and general expenses in connection with the cleaning of blast furnace stoves and boilers as this work will be greatly reduced by the use of cleaned gas. A close estimate of the final effect of this saving is not practicable however.

Total labour required.

58. In 1926 the Board expressed the opinion that a considerable reduction in the number of employees should be effected and came to the conclusion that a total of 23,440 should suffice for a production of 600,000 tons of finished steel per year. This gives an output of 25·6 tons per employee per year. Owing to the general depression the anticipated output has not been reached. During the six months January-June, 1933, the production was at the rate of 466,600 tons

per year which is the highest figure recorded so far. The average number of workpeople in regular attendance employed on the production of steel over the period was 17,517. This shows an output of 26·6 tons per person per year so that in this respect the result is better than was anticipated by the Board.

Expenditure on labour.

59. The Board's opinion in 1926 was that the total cost of labour for producing 600,000 tons of steel in 1933-34 should not exceed Rs. 148·4 lakhs which would give a cost of Rs. 24·7 per ton. The total cost of labour over the first six months of 1933 gives a figure of Rs. 27·2 per ton. It will be seen that while the output per employee is greater than was anticipated (due to a substantial reduction in numbers) and therefore a lower labour cost per ton should be expected, this cost has actually increased by Rs. 2·5 per ton which shows that higher rates of wages are being paid than were anticipated. We do not however wish to suggest an alteration in wage rates nor a reduction in numbers employed beyond that which should naturally result from increased efficiency in the works as the contemplated improvements become effective.

Effect of increased output.

60. As we have stated, the rate of output during the first six months of 1933 was higher than any previously recorded. The Company suggests that the average annual output of steel products over a period of seven years be taken at 530,000 tons. This appears to us to be rather low and we assume an increased output of billets and steel sleepers which will bring the figure up to 555,000 tons. This represents an increase of nearly 20 per cent. on the figures for the first half of 1933 on which our ascertained costs are based and should have a material effect on the cost per ton of steel paid for wages, cost of service departments and charges generally. The contention that this will be so is amply borne out by the figures now available for the latter part of 1933 which show an increased rate of output with a marked reduction in costs. We anticipate that any advance in the prices paid for stores will be fully offset by the effect of the increased output and improved efficiency in the works and that the cost of stores per ton of steel will fall or on the average there will be no appreciable change over the period.

Proposed new rolling mill.

61. The general reductions in cost which we have considered so far will affect all steel products. The Company proposes to instal a modern mill which will displace the old bar mill. In addition to producing the bars now rolled on the old mill at a lower cost, this new mill should be able to roll many of the lighter sections more economically than the 28″ mill, while the 28″ mill should show lower costs than at present on rails and the heavier sections for which it is suited. The Company has not yet come to a decision as to the type of mill to be installed or the range of sections to be rolled thereon. A detailed estimate as to the probable effect on future costs is therefore impossible.

General conclusions.

62. Having estimated the effect that improved practice and equipment should have on future costs and taken into account the other factors which should effect these but which cannot be calculated in detail, we consider that by 1940-41 the costs should be reduced to the following figures:—

TABLE IX.

Estimated works cost per ton, 1940-41.

	Rs.
Rails	44·23
Fishplates	69·00
Structural sections	48·23
Bars	49·00
Plates	50·58
Tinbar and billets	35·56
Black sheets	65·12
Galvanized sheets	95·12
Sleepers	46·06

Costs on which Tariffs are to be estimated.

63. We must now take into account the time within which the various steps which must be taken by the Company to carry out the contemplated improvements in the plant can be made effective. It is not possible to put a definite date for each item. Some it is known will be completed and should be effective within a year, while the re-building of the coke oven plant which will have an important effect on economy in fuel will probably extend over the whole period of seven years which the Company's programme of capital expenditure covers. For the first year at least it will have the advantage of very cheap coal. The Company has not yet completed its plans for the installation of the new mill and certain other items and the date on which these can be taken in hand will be governed largely by the question of finance being available. We have come to the conclusion that the fairest way to proceed is to assume, as was done by the Board in 1926, that progress will be made uniformly over the period and that an arithmetical average of the costs as now ascertained and the costs which we anticipate by the year 1940-41 should be the basis on which tariffs are estimated; these figures are set out in the following table:—

TABLE X.

Works Costs per ton.

	Adjusted present costs.	Estimated 1940-41.	Average for period.
	Rs.	Rs.	Rs.
Rails	56·00	44·23	50·11
Fishplates	86·52	69·00	77·76
Structural sections	60·00	48·23	54·11
Bars	59·63	49·00	54·31
Plates	62·57	50·58	56·57
Tinbar and billets	44·86	35·56	40·21
Black sheets	85·54	65·12	75·33
Galvanized sheets	115·54	95·12	105·33
Sleepers	55·86	46·06	50·96

Increased railway charges.

64. As the Bengal Nagpur Railway Company has advanced the rates for delivering materials to the works the costs of these and consequently the works cost of the steel products will be increased. The effect will not be uniform on all products as more coal and other materials are used in the manufacture of certain products than of others, the consumption depending on the number and character of the operations involved. The amounts by which the costs we have arrived at must be increased on this account are shown in the following table. The effect will be uniform throughout the period so that the increase has been applied to both the estimated costs for 1940-41 and the average costs which we anticipate over the period.

TABLE XI.

	Increase in costs due to higher railway charges.	Estimated costs 1940-41 including increased railway charges.	Average costs including increased railway charges.
	Rs.	Rs.	Rs.
Rails	3·0	47·23	53·11
Fishplates	3·5	72·50	81·26
Structural sections . .	3·0	51·23	57·11
Bars	3·0	52·00	57·31
Plates	3·5	54·08	60·07
Tinbar and billets . .	2·5	38·06	42·71
Black sheets	3·5	68·62	78·83
Galvanized sheets . .	3·5	98·62	108·83
Sleepers	3·0	49·06	53·96

These average costs which include the effect of the increased railway charges on incoming materials are the figures on which we base our estimate of the fair selling prices required by the Tata Company over the seven years ending March 31st, 1941.

Information from other sources as to costs.

65. In the course of the oral evidence given by various parties and in written communications received, figures have been put forward as representing the costs at which steel products should be manufactured in India. We do not find that any of these are supported by actual practice. They have been given by people who appear to have had little, if any, experience of the manufacturing operations involved in the production of steel from raw materials. In every case where actual costs have been given for re-rolling steel billets or scrap material into bars the costs of the operation have been considerably higher than the cost of rolling on the Tata Company's mills. In some cases where lower works costs than the Tata Company's are claimed they are due to the fact that scrap material bought at low prices is rolled into bars direct without re-melting. The re-rolling of scrap is a normal operation which is carried out in other countries but the

quantity of suitable scrap available for re-rolling is very limited and we do not consider that costs of bars or light sections produced from scrap material can be used in estimating the costs which should be attained in the ordinary course of steel manufacture.

As the Tata Company is the only producer of rolled steel from raw materials (iron ore and coal) in India our estimates are based entirely on what has been accomplished and what we believe can be accomplished by the Company in future.

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CHAPTER IV.

Estimate of capital charges.

Capital value.

66. The overhead charges consist of—

(*a*) depreciation,

(*b*) interest on working capital,

(*c*) Managing Agent's commission and head office charges.

In the first report of 1924 the capital value of the plant as completed by the "Greater Extensions" was assessed at Rs. 15 crores. This sum was arrived at by writing up the expenditure on the old plant (Rs. 4 crores) to Rs. 5 crores on the ground of the rise in prices since the pre-war period and writing down the Greater Extensions from Rs. 15 crores to Rs. 10 crores partly on account of the high prices at which the new plant was bought, and also because part of the new plant was intended to replace the old. The value thus arrived at was confirmed by an estimate prepared for the United Steel Corporation of Asia for erecting a plant of comparable capacity, and was generally accepted as a reasonable valuation for the purpose for which it was required. In 1926 the Board started with the figure of Rs. 15 crores and excluding Rs. 3 crores (equal to 20 per cent.) as roughly representing the expenditure in India and therefore not susceptible of reduction, reduced the balance of Rs. 12 crores to Rs. 9½ crores on the ground that a 20 per cent. reduction was justified partly by the appreciation in the rupee exchange and partly by the fall in the sterling prices of machinery and steel. The new valuation therefore was fixed at Rs. 12½ crores (Rs. 9½ *plus* Rs. 3). This valuation it should be noted was based on the cost of replacement by a new plant of similar equipment and capacity and was not the depreciated value of the plant as it stood in 1926.

Objections to the 1926 valuation.

67. The Company has taken exception to this valuation on the ground that the Board greatly underestimated the "expenditure in India", a factor in the capital value which admittedly was not subject to reduction on account of any fall in prices and has substantiated this claim by a detailed analysis of the capital expenditure. It is advisable therefore to attempt some distribution of the capital value over the main heads. For our purpose these are (1) the Ore mines, (2) the Town and (3) the Works, and if we reduce the block value of these in the proportion in which they appear in the Company's balance sheet, we obtain the following

figures as they stood in 1925-26, at the time when the Board was making its enquiry:—

TABLE XII.

Block value in 1925-26.

	After distributing the unallocated interest.	Reduced *pro rata*.
	Rs. (crores).	Rs. (crores).
Ore mines	·66	·53
Town	2·05	1·65
Works	15·90	12·82
	18·61	15·00

We may assume that the Town expenditure (Rs. 1·65 crore) is almost entirely expenditure in India, so that the gross figure of Rs. 3 crores assumed by the Board would include little more than Rs. 135 lakhs out of the total expenditure (Rs. 13·4 crores) on ore mines and works. The Company would put the proportion of foreign expenditure at not less than 40 per cent. (instead of 20 per cent.) of the gross block expenditure, that is to say, Rs. 6 crores instead of Rs. 3 crores. The analysis which it has submitted of capital expenditure confirms its contention. The detailed analysis of the years 1926-33 gives proportions of 47·4 (foreign) to 52·6 (Indian) expenditure: and this proportion is roughly confirmed by an analysis of something more than half of the capital outlay in the period 1920-26. It seems clear that the proportion was underestimated by the Board and that on the reasoning then adopted the valuation of the plant might have been put at a somewhat higher figure.

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Additions to plant.

68. The Board referred in their 1926 report to the Development Scheme, then under contemplation, which would raise the capacity of the plant to about 600,000 tons. The expenditure involved was about Rs. 2½ crores and it was held that since no fresh capital issue was to be made, and since the increased output would be obtained solely by the replacement of worn or obsolete by more efficient plant, there would be no increase in the capital value. This conclusion was confirmed by such information as the Board could obtain regarding the cost of erecting a plant of similar capacity in Europe.

Our method of valuation.

69. It is necessary to insist on the fact that the valuation at which we have to arrive for the purpose of determining the depreciation is not the valuation to-day of the Company's property. The essential factor is the cost during the period of protection of replacing the plant by works of similar capacity, for it is only on this basis that we can arrive at a proper estimate of the rate of protection required for the industry. The book value of the property is of interest chiefly as evidence bearing on that part of the enquiry

which is directed to establishing that the property has been maintained in efficient condition. The assessment of Rs. 15 crores (1924), as distributed in paragraph 67 above, would be apportioned to the re-assessment of Rs. 12½ crores arithmetically as shown in the following table:—

TABLE XIII.

		Expenditure since 1926.	Total.
	Rs. (lakhs).	Rs. (lakhs).	Rs. (lakhs.)
Ore mines	44	20	64
Town	1,38	51	1,89
Works	10,68	2,65	13,33
	12,50	3,36	15,86

The expenditure since 1926 on the development referred to in paragraph 64 of the Board's report is shown in the second column. It is considerably more than the Rs. 2½ crores estimated in 1926: but has been wholly met from the annual allocations to depreciation. We have no difficulty in concluding that the efficiency of the plant has been fully maintained.

Prices of machinery.

70. Information we have received from England leads us to conclude that the prime cost of rolling mill plant has fallen little since 1926; and the tendency is for prices to rise. The Company is prepared to accept the position that the cost might be lower by such a margin as would cover the probable undervaluation of the plant in 1926, and accordingly accepts the figure of Rs. 12½ crores as a not unfair valuation of its block for the purpose of calculating depreciation and profit.

Valuation by ingot capacity.

71. We have regarded the question from another point of view. It is the practice we understand in the steel trade, to compute roughly the capital value of a plant by reference to its ingot capacity. The representative of the National Federation of Iron and Steel Manufacturers in the United Kingdom whom we examined on this question, considered that for a works with the capacity and equipment of the Jamshedpur works and an Estate Department equivalent to that of the Tata Iron and Steel Company, a capital valuation of £10 per ingot ton would in England be accepted as reasonable. If an allowance be made for freight and landing charges and import duty on machinery a valuation of £11 per ton may reasonably be assumed as the corresponding valuation in India. The nominal ingot capacity of the Jamshedpur works is 900,000 tons; but until the open hearth furnaces are rebuilt it would probably be safer to assess the capacity at 800,000 tons. This method would put the capital value of the works at approximately Rs. 12 crores. The extent to which works in England own their own mines, and are obliged to incur

expenditure on such charges as are included in Jamshedpur 'Town' varies very greatly. On the whole, we regard this evidence as confirming that the estimate of Rs. 12½ crores for the entire property is not excessive. The *pro rata* distribution will give the following valuation:—

	Rs. (crores).
Ore mines	·50
Town	1·49
Works	10·51
	12·50

Probably this distribution undervalues the Town property, the replacement cost of which cannot have fallen in the same proportion as that of the steel plant.

Depreciation.

72. We come now to the rate of depreciation, the method of calculating it, and its use. In the first place we must refer once again to a point we have already stressed, *viz.*, that the valuation which we put upon the property has little or no relation to the block value shown in the accounts. It follows that methods of accounting for depreciation generally adopted for book-keeping purposes are not necessarily relevant to this enquiry. We are solely concerned, as the first report laid down, "with the cost of replacement at present-day prices", and not "with the book value of the property or its original cost", and "the reasonable allowance for depreciation must be determined by the cost at present prices of replacing the old works". Our task then is to determine an annual allowance which will enable the Company to maintain the efficiency of the plant against wear and tear and obsolescence.

The rate.

73. The 6¼ per cent. on the assessed value of the plant assumed in the first report was a weighted average figure based on the Income-Tax Department's practice of allowing varying percentages for buildings and machinery. We see no reason for departing from this figure. The proportionate distribution of the capital value has remained approximately the same since that date, and the percentage allowance has proved adequate and in our opinion not more than adequate for its purpose. This view has been confirmed by the evidence we have received from the National Federation of Iron and Steel Manufacturers in the United Kingdom. A lesser figure might endanger the scheme of protection which is intended to foster growth and encourage the investment of capital in the industry.

The annual amount.

74. It has been suggested that the depreciation allotment, whether funded or not, whether invested in the industry or outside, does in fact earn interest, and that this factor ought to be taken into account in determining the initial percentage required to be allocated. A very much smaller sum than Rs. 78 lakhs for example, if invested at compound interest, would give the same total

figure required over the period of depreciation. This is perfectly true, and only irrelevant to the present discussion, because the allotment being invested in the industry itself, earns its interest in the shape of reduced costs, which are fully taken into account by us in determining the fair selling price of the product.

Summary.

75. To sum up, the depreciation allowed is calculated on the replacement cost of the plant required for the estimated output. This is a constant figure, and consequently the depreciation required can most conveniently be calculated as a constant annual figure. It is true that the sums thus set aside earn interest, but the total depreciation allotment cannot be reduced by the amount earned, because this has already been taken into account in estimating costs.

Use of Depreciation Fund.

76. We are aware that the inclusion of the annual allocation of Rs. 78 lakhs in the protective scheme has enabled the Tata Iron and Steel Company to accumulate reserves which have been extremely useful to the Company in the general financing of the industry. We have considered this aspect of the question with great care and we have come to the conclusion that we need not insist on any particular method of accounting for the depreciation fund, provided that adequate provision is annually made for maintaining output and efficiency, and that the funds so provided are invested in the industry and not utilized for distribution as dividends to shareholders. It is a practice it is true in certain industries for the annual depreciation allotment to be funded and utilized only for certain specific purposes. In such instances the fund would ordinarily be invested and earn a profit. Such a practice has undoubted advantages. But we see nothing improper in the investment of such funds in the industry itself, in which the management may see their way to earn a higher return than they could outside.

Capital expenditure.

77. It will be noticed that the programme of capital expenditure for the next seven years which we are informed the Company intends to finance from the funds thus accumulated, contains items which can not be regarded as replacement of worn or obsolete machinery. It is not possible nor do we consider it desirable, to lay down in detail what works the Company shall or shall not finance from its depreciation fund. There will be from time to time accumulations which at any given moment are not required for replacement of plant, and provided that the reserve is recouped in due course for use when major replacements are required, we can take no exception to this use of the funds for improvements and extensions. At the same time it is necessary to point out that the programme of capital expenditure does not cover all the items of plant and machinery which are liable to fall due for substantial replacement in the not distant future. It is undesirable that the funds required for this purpose should be locked up either in new developments intended to increase output rather than maintain efficiency, or in extensions of uncertain utility such as the proposed slag cement and brickmaking plants.

Proposed brick-making plant.

78. The erection of a brickmaking and slag cement plant is of considerably less urgency in the present circumstances of the Company than the reconstruction of the open hearth plant. We do not wish to imply that the Company's estimates of possible economies in the cost of bricks or the possible credits from slag as the result of erecting a brick and cement plant of its own are necessarily unattainable. But we think that as the output of steel increases much greater advantage will be derived from the reduction in the cost of making steel which a modern and well-designed open hearth plant will render possible. For this reason we consider, as we have already stated in paragraph 40, that the reconstruction of the open hearth plant should have precedence over the proposed brick and cement plant in the allotment of the depreciation fund. We appreciate the Steel Company's natural anxiety to reduce costs in every direction and have no desire to belittle the importance to the Company of exploring all possible sources of economy. But measures of economy must necessarily involve a balancing of the relative advantages of different methods. In the present case this is an aspect of the matter which requires careful consideration. As regards the erection of a brick plant, the question is further complicated by representations made to us by existing brick companies. The Steel Company at present receives its supplies of brick from the brick companies situated at Asansol, Raniganj and Kumardhubi which are dependent mainly on the Steel Company for the sale of their output. The brick industry in this area came into existence chiefly to supply the market afforded by the Steel Company, and the plant and machinery have to a substantial extent been organised so as to meet the Steel Company's requirements and in some cases definitely in response to the Company's suggestions. We think, therefore, provided the prices and quality of the materials supplied by the existing brick companies are reasonably satisfactory, that it would be in the interests both of the brick industry and of the Tata Iron and Steel Company to continue the existing arrangements, with such modifications as may be necessary. This suggestion derives additional strength from the fact to which we have already referred that in our opinion the funds allotted in the capital programme for the erection of a brick plant could be utilised by the Company more economically in other directions. We understand that the brick companies have recently offered reduced prices for materials supplied to the Steel Company which are now under consideration by the Company. We have no desire whatever to influence the Steel Company's judgment as regards the reasonableness of the rates offered. But the fact that the brick companies are willing to review the rates hitherto in force indicates that there are reasonable chances of a mutually satisfactory settlement. We are of opinion that the possibility of a settlement thus opened up should be fully explored. Every reasonable effort should be made to avoid the prospect of the disappearance or weakening of an already established industry as the result of protection granted to another industry.

Working Capital and Managing Agent's Commission.

79. During the last period of protection an allowance on account of interest on working capital has been conceded, calculated at 7 per cent. on the average works cost of 6 months' production. We have satisfied ourselves that the cost of 6 months' production may be taken as the measure of working capital required. The Company now asks for an allowance of Rs. 11 lakhs, which is 6 per cent. on their calculation of 6 months' works cost. We accept this figure. 6 per cent. is possibly a high figure to-day, but we cannot foresee the course of interest rates and a difference of even one per cent. cannot affect the rates of duty. The Company's estimate would be increased by the increased railway freights referred to in its representation, but on the other hand this increase will be more than covered by the revised estimates which we have made of future works costs. For Managing Agent's commission and Head Office expenses we propose to retain the Rs. 10 lakhs hitherto conceded as being a reasonable provision. The average Head Office expenses amount to Rs. 4½ lakhs per annum, and on the assumption that full dividends are earned, the Agent's commission (which is calculated on nett profits after deducting interest and depreciation) would amount to a little more than Rs. 8 lakhs.

Manufacturer's profit.

80. We also propose to confirm the all-round rate of 8 per cent. on the value of the fixed assets, *viz.*, Rs. 12½ crores, as a reasonable profit, for reasons which have been accepted in the past. In the present circumstances of the industry we agree that a lower rate would neither be fair to the industry nor could be expected to attract fresh capital.

Total overhead charges.

81. In 1926 the Board debited to the profits from the sale of surplus pig iron a proportion of the overhead charges which amounted to Rs. 3·3 lakhs. The Company has estimated that owing to the continued depression in the market for this commodity it is likely to have a deficit of Rs. 7 lakhs instead of a surplus. The average realisation per ton during January-June, 1933, on the export of pig iron was Rs. 17·9, the works cost being Rs. 18·6. Our revised works cost reduces the latter figure by about Re. 1 per ton: but we consider that it would be unsafe to count on larger average realisations from exports. The surplus therefore is likely to be negligible. The total amount to be earned above the works costs therefore is:—

TABLE XIV.

	Rs. (lakhs).
I.—Overheads	
Depreciation	78·00
Interest on working capital	11·00
Managing Agent's Commission and Head Office expenses	10·00
	99·00
II.—Manufacturer's profit	100·00
Total .	199·00

Relation of overheads to works costs.

82. The criticism has been made by witnesses that the overhead charges are excessive in relation to the costs. The origin of this criticism probably lies in the fact that for the purpose of calculating the fair selling price the interest on the capital outlay (*i.e.*, " the manufacturer's profit ") is added to the overheads and commonly referred to loosely as " overhead charges " and the combined figure looks larger than is common in the accounts of steel works. The incidence per ton of the overheads, *viz.*, depreciation, interest on working capital, Head Office charges, and Managing Agent's commission is about Rs. 18 with an output of 555,000 tons and with a full output of 650,000 tons will drop to Rs. 15. Owing to the variety of practice followed elsewhere in the accounting for ' overheads ' we are unable to make any effective comparison. But we believe the incidence to be low.

In order to earn 8 per cent. on its fixed capital the Company must make also Rs. 18 per ton with an output of 555,000 tons and Rs. 15 per ton with an output of 650,000 tons. But there is of course no constant relation between these figures and the works costs, or between the overheads and the works costs. It is the constant endeavour of every industry to reduce its works costs. On the other hand, given the determined valuation of the plant, and the rates applicable to each item, the depreciation must remain unchanged. So that apart from minor variations in the Agent's commission and the interest on working capital, overheads remain constant. The lower the works costs therefore the higher the ratio of overheads in the selling price. In the same way the lower the works costs the higher the ratio which is required in the selling price in order to pay the same rate of interest on the fixed capital. Put in this way it will appear that the criticism is either meaningless, except on the assumption that works costs are static and output ' normall ' or means only that the valuation of the plant or the rate of depreciation is excessive. We have already dealt with both these questions. What really matters is the incidence per ton of output and the nearer the output approaches the maximum capacity the more easily the overheads are covered, and the assumed profit realised.

CHAPTER V.

The amount of protection required.

Method of distributing overheads and profit.

83. Our estimates of future works costs have been set out in Chapter III and of capital charges in Chapter IV. We have assumed an average output of saleable products of 555,000 tons. On this output the average incidence of overhead charges and profit as estimated by us works out at Rs. 35·8 per ton of steel. We do not, however, propose to distribute the overhead charges and profit over the various products at a uniform rate per ton of steel, but at different rates according to what we believe to be the most suitable proportion for each class of product, taking into account the works costs, the value of the plant and the conditions of the market in respect of each product.

Fair selling prices f.o.r. Tatanagar.

84. The following table shows per ton of each product the estimated average works cost, the amount of overhead and profit and the resulting fair selling price f.o.r. Tatanagar:—

TABLE XV.

	Estimated average works cost.	Estimated average output.	Overhead and profit.	Fair selling price f.o.r. Tatanagar.
	Rs	Tons.	Rs.	Rs.
Rails	53	80,000	42	95
Fishplates . . .	81	3,000	52	133
Structurals . . .	57	117,000	43	100
Bars	57	80,000	37	94
Plates	60	35,000	39	99
Semis	43	110,000	10	53
Black sheets . . .	79	25,000	43	122
Galvanized sheets . .	109	90,000	50	159
Sleepers . . .	54	15,000	24	78

Adjustments in the fair selling prices f.o.r. Tatanagar.

85. The fair selling prices shown in the foregoing table are the prices f.o.r. Tatanagar. Before estimating the measure of protection, it is necessary to make certain adjustments in these prices so as to make them comparable with import prices. The adjustments required fall under three heads—(*a*) freight disadvantage, (*b*) selling expenses and (*c*) miscellaneous adjustments. Unless the fair selling prices estimated f.o.r. Tatanagar are adjusted with reference to these factors, the protection realised will fall short of what the industry may require. Import prices do not necessarily

correspond to realised prices and unless account is taken of the margin which generally exists between the two, the scheme of protection may prove defective. This margin is partly the result of circumstances over which the industry has no control. But it may be due also to faults of management and salesmanship in the industry, in which case it is essential that the allowance claimed on this account should be correspondingly reduced.

Freight disadvantage claimed by the Company.

86. The first factor in respect of which the fair selling price is sought to be adjusted is freight disadvantage. By this is meant the average excess of the freight borne by steel railed from Tatanagar to destination over the freight borne by imported steel railed from the nearest port to the same destination. The disadvantage refers only to rail freights within the country, since the c.i.f. prices on which the measure of protection is based already include the sea freight borne by imported steel. In 1926 the Tariff Board estimated that on the average there would be a freight disadvantage to the Company in the case of rails, fishplates and sleepers but that there would be a freight advantage in the case of all other products. The enormous shrinkage in the market for steel in India which has since occurred has rendered it necessary for the Company to sell a larger proportion of its output in freight disadvantage areas than was anticipated in 1926. The Company expects that the increased output estimated for the next few years will, unless the market revives in the meantime, have to be disposed of largely in markets where it will be at a freight disadvantage. The Company, therefore, claims that allowance should be made for freight disadvantage on a scale not lower than the actual disadvantage incurred in 1932-33. In the case of products in respect of which an increase in output is estimated as compared with 1932-33, it is claimed that the allowance should be substantially higher than was incurred in that year.

Actual freight disadvantage compared with Company's claims.

87. The actual freight disadvantage (or advantage +) and the allowance claimed by the Company in respect of each product are shown below:—

TABLE XVI.

Rails, fishplates and sleepers.

	Actual output. Approximate average of 6 years.	Actual disadvantage. Average of 6 years.	Output estimated by the Board.	Allowance claimed by the Company.
	Tons.	Rs. per ton.	Tons.	Rs. per ton.
Rails	99,000	7	80,000	8
Fishplates . . .	4,000	7	3,000	8
Sleepers . . .	4,000	10	15,000	10

TABLE XVII.

Other classes of steel.

	Actual output 1932-33.	Actual disadvantage (or advantage+) 1932-33.	Output estimated by the Board.	Allowance claimed by the Company.
	Tons.	Rs. per ton.	Tons.	Rs. per ton.
Structurals—				
(1) Tested	99,000	4·2	117,000	5
(2) Untested		0·7		3
Bars—				
(1) Tested	86,000	5·1	80,000	5
(2) Untested		5		6
Plates—				
(1) Tested	29,000	5·5	35,000	5
(2) Untested		3·6		5
Semis	53,000	...	110,000	12
Black sheets—				
(1) Tested	12,000	...	25,000	5
(2) Untested		+4·2		2
Galvanized sheets	47,000	+1·5	90,000	5

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Board's estimate of freight disadvantage.

88. It will be noticed that except in the case of a few products the allowance claimed by the Company is considerably higher than the disadvantage actually incurred in previous years. While we recognise that an increase in output will necessitate a larger proportion of sales in freight disadvantage areas, we cannot admit that the whole of the additional output will necessarily be sold in such areas. As the market for steel revives and gradually assumes more normal proportions, it is reasonable to anticipate that the markets in the Company's advantage areas will absorb a considerable share of the additional output. In the case of semis, the Company's claim is based on the fact that the more serious competition from imports would arise if the semis were imported into such ports as Madras and Bombay where the Company's freight disadvantage is over Rs. 15 per ton. As the bulk of the estimated output of semis will be sold to companies located at Tatanagar, we think that the average freight disadvantage on the whole output admits of very substantial reduction. We have taken these factors

fully into account in suggesting the following allowances for freight disadvantage:—

TABLE XVIII.

	Per ton on existing freights.	Estimated addition on account of revised freights.	Total.
	Rs.	Rs.	Rs.
Rails	7	1	8
Fishplates	7	1	8
Structurals—			
(i) Tested	5	1	6
(ii) Untested	1·5	1	2·5
Bars—			
(i) Tested	5	1	6
(ii) Untested	5	1	6
Plates—			
(i) Tested	5	1	6
(ii) Untested	4	1	5
Semis	5	1	6
Black sheets—			
(i) Tested	1	1	2
(ii) Untested	...	1	1
Galvanized sheets	2	1	3
Sleepers	8	1	9

Adjustment for selling expenses.

89. The second adjustment claimed by the Company is on account of selling expenses. Its claims under this head may be summarised as follows:—

	Tested per cent.	Untested per cent.
Cash discount	1	1
Merchants' Commission	1	1
Miscellaneous claims, *e.g.*, loss due to delayed delivery, transit, errors in loading, etc.	0·5	0·25
Defective materials	...	0·25
Bad debts	...	0·25
Deferred rebate	...	Rs. 1-8-0
Total	2½	2¾ *plus* Rs. 1-8-0

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All these are expenses which must be presumed to be incurred equally by importers and it is therefore necessary to enquire whether any addition to the fair selling price on this account is justifiable. We are informed that the general, though not universal, practice in the Indian import trade in steel is to include in the c.i.f. price such charges as discounts and commissions. The fair selling price estimated for the Indian industry ought therefore also to include these charges. But no allowance is made in the c.i.f. price, as far as we are aware, for charges other than discounts and commissions. These charges whenever they arise must therefore be necessarily met by the importer from the sum allowed for discount and commission. The usual allowance for discount and commission in the case of importers is 2½ per cent. which is somewhat higher than the rate claimed under these heads by the Steel Company. We think it fair that the same rate should be allowed to the Steel Company also and we therefore propose a uniform rate of 2½ per cent. of the fair selling price *ex*-works to cover all selling expenses. On the estimated fair selling price *ex*-works this allowance amounts approximately to Rs. 10 lakhs a year, which should be sufficient to meet all charges including the Company's Sales Department. The expenditure on the Sales Department at present averages about Rs. 4 lakhs a year. We consider that substantial reduction in this expenditure is possible and that apart from the allowance for selling expenses and for the Head Office (under overhead charges) no separate concession on account of the Sales Department is necessary.

Adjustment for lag between import and realised prices.

90. The third adjustment claimed by the Company is in respect of a group of miscellaneous items which do not admit of exact computation. After making full allowance for freight disadvantage and selling expenses, the Company's actual realisations in 1932-33 fell short of the average import prices by the following amounts:—

TABLE XIX.

	Per ton. Rs.
Structurals—	
(1) Tested	6·9
(2) Untested	2·8
Bars—	
(1) Tested	4·1
(2) Untested	6·9
Plates—	
(1) Tested	6·5
(2) Untested	5·9
Black sheets—	
(1) Tested	...
(2) Untested	7·7
Galvanized sheets	18·0

सत्यमेव जयते

These are substantial amounts and call for careful scrutiny. The main explanation of the wide margin between import prices and realised prices, even after allowing for freight disadvantage and selling expenses, consists, in our opinion, in the fact that at a time of rapidly falling demand the Company had to make substantial reductions in prices in order to maintain its output of steel. With the gradual revival of the steel market which appears already to have set in and the growing reputation of the Steel Company's products and the development of its trade connections it may be expected that a considerable part of the lag which now exists between import prices and realised prices will disappear. Some of the causes which make for this lag will however still remain. In the case of fabricated steel, the exceptionally low prices at which orders have been secured by Indian manufacturers recently have necessitated substantial reductions in the prices of rolled steel supplied to them. In view of the severe foreign competition to which the Indian engineering industry is exposed from time to time, and the reduced prices which in consequence steel producers will probably be called upon to accept in certain instances, we consider it essential that some provision for this should be included in the fair selling price estimated for Indian rolled steel. Another cause which may continue to keep the Company's realisations below the average level of import prices is the seasonal variations which occur in the demand for steel. The necessity for maintaining output as far as possible at a steady level throughout the year will prevent the Company from following temporary rises in import prices in all cases. Since the import prices on which the measure of protection is based are the yearly averages, it necessarily follows that the average realisations will always fall short to this extent of the average import prices.

Board's allowance for lag between import and realised prices.

91. We have come to the conclusion that an allowance at half the rates claimed by the Company will be sufficient to cover whatever lag may occur between import and realised prices. In the following table we show the actual differences under this head in 1932-33, the amount claimed by the Company and the allowance proposed by us:—

सत्यमेव जयते

TABLE XX.

	Actuals 1932-33. Rs. per ton.	Company's claim. Rs. per ton.	Allowance proposed. Rs. per ton.
Structurals—			
(1) Tested	6·9	4	2
(2) Untested	2·8	4	2
Bars—			
(1) Tested	4·1	6	3
(2) Untested	6·9	6	3
Plates—			
(1) Tested	6·5	6	3
(2) Untested	5·9	6	3
Black sheets—			
(1) Tested	...	6	3
(2) Untested	7·7	6	3
Galvanized sheets	18	8	4

Fair selling price f.o.r. port.

92. When the adjustments referred to in the preceding paragraphs are made in the fair selling prices as estimated f.o.r. Tatanagar we arrive at what may be called the fair selling prices f.o.r. port. It is on a comparison of these prices with the import

prices that the measure of protection is determined. The fair selling prices as estimated by us are summarised below. In the case of rails, fishplates, sleepers and semis the Company has claimed no adjustment except on account of freight disadvantage. This is therefore the only adjustment we have made in the fair selling price of these articles:—

TABLE XXI.

	Fair selling price f.o.r. Tatanagar. Rs. per ton.	Fair selling price f.o.r. port. Rs. per ton.
Rails	95	103
Fishplates	133	141
Structurals—		
(1) United Kingdom (tested)	100	111
(2) Continental (untested)	100	107
Bars—		
(1) United Kingdom (tested)	94	106
(2) Continental (untested)	94	106
Plates—		
(1) United Kingdom (tested)	99	110
(2) Continental (untested)	99	109
Semis	53	59
Black sheets—		
(1) United Kingdom (tested)	122	130
(2) Continental (untested)	122	129
Galvanized sheets	159	170
Sleepers	78	87

93. In arriving at the fair selling prices of tested and untested steel, the Tariff Board in 1926 adjusted the estimated prices so as to make a difference of Rs. 7 per ton between the prices of tested and untested steel. The actual differences during the past six years are shown below:—

No adjustment required for difference between prices of tested and untested steel.

TABLE XXII.

	1927-28 Rs. per ton.	1928-29 Rs. per ton.	1929-30 Rs. per ton.	1930-31 Rs. per ton.	1931-32 Rs. per ton.	1932-33 Rs. per ton.
Structurals	26·9	17·9	15·4	30·3	38·4	39·5
Bars	28·1	8·0	17·7	21·4	27·1	22·2
Plates	8·0	2·2	3·8	18·6	28·3	25·5
Black sheet 14/18 gauge	20·0	10·4	7·4	15·3	9·4	2·2

Except in the case of plates in the first half and of black sheets in the second half of the period, the difference was very considerably in excess of that proposed by the Tariff Board. The explanation is to be found in the fact that the margin between the c.i.f. prices of British and Continental steel assumed by the Tariff Board in 1926 has since substantially widened in most cases. This was mitigated to some extent by the imposition of surcharges on the protective duties at percentage rates in 1931 which had the effect of increasing the duties on Continental steel as compared with British steel. In spite of this the disparity between the two prices has been generally much greater than the Tariff Board assumed. In the conditions of the Indian market the price of tested steel is determined by British prices and that of untested steel by Continental prices. The margin between the two classes of steel in India bears therefore no definite relation to the difference between the prices of tested and untested steel of the same quality in other countries. When the Tariff Board in 1926 adopted a margin of Rs. 7 (10 shillings) they based it on the excess generally prescribed for tested as compared with untested steel on the Continent. This however is only a nominal figure and as far as we know is not strictly adhered to in actual transactions. In the United Kingdom we understand that the difference in price generally quoted between tested and untested steel of the same quality is considerably smaller than 10 shillings. The margin between tested and untested steel of the same quality in other countries is however of little assistance in determining the corresponding difference in the Indian market because, as we have pointed out, the difference in India is based not on the margin between tested and untested as such but rather between British and Continental prices. This may partly reflect the true difference between tested and untested but is mainly the result of the different levels of prices quoted by British and Continental manufacturers in the competitive conditions prevailing in the steel market from time to time. Under these circumstances we do not consider it practicable by any adjustment of the estimated duties to preserve a constant difference in the market between the prices of tested and untested steel. A scheme of protection can only aim at securing a specified measure of protection for the industry in the aggregate over a definite period but it cannot secure that the price estimated for each individual product is maintained in the market throughout the period of protection.

Difficulty of estimating import prices.

94. The determination of the level at which import prices should be taken in this enquiry for the purpose of estimating the measure of protection is a question which presents unusual difficulties. The unsettled conditions of trade and currency throughout the world make it exceedingly difficult to forecast the future course of steel prices. Since the early part of 1933 there has been a marked increase in the prices of Continental steel following the reorganisation of the steel cartel. At the same time there has also been a visible improvement in many countries in the demand for steel. These developments appear to indicate that the general depression which has prevailed in the steel industry since 1929 has run its course and that an upward movement of a more or less permanent character in demand and prices may now be regarded as having set in. It is however too early, and judged by the course

of steel prices in the past entirely unsafe, to accept these indications for the purpose of the present enquiry as marking a definite upward trend. The duration of the Continental steel cartel, viewed in the light of the history of similar cartels in the past, must be a matter of extreme uncertainty. A collapse or at least suspension of the cartel in the near future is not improbable and if that happens, a considerable disorganisation of the prices of imported steel must be reckoned with. Moreover, the currencies of most of the principal countries are still in a stage of transition, while in the case of countries such as Belgium and France it is impossible to predict whether and if so how long the policy of maintaining the gold standard will be pursued. Any unsettlement of the relative values of national currencies will obviously have serious repercussions on the level of steel prices. Already the arrival of Japanese imports of iron and steel products aided apparently by a depreciated currency, is taken as portending the advent of a fresh element of insecurity in the Indian market.

Basis of import prices adopted by the Board.

95. In view of these uncertainties which beset the future course of steel prices we propose to base our recommendations on the average prices which prevailed in the earlier part of 1933. At the same time we propose to make provision in the scheme of protection for adjusting the duties automatically if it is found at some later stage that prices have varied substantially as compared with the prices assumed by us. This appears to be the most prudent course open to us in the circumstances. The 1933 prices taken by us represent approximately the average prices during the eight months January-August. In the latter half of this period Continental steel prices stood at the higher level fixed by the cartel since its reorganisation, and in the earlier half at a relatively low level. As far as Continental imports are concerned, they represent therefore a level of prices intermediate between current cartel prices and the prices which prevailed before the formation of the cartel. In determining the measure of protection required for a period of years, this appears to us to be on the whole the most suitable basis, considering the frequent fluctuation which has marked the course of Continental prices and the uncertain duration of the steel cartel. In British prices there has been little variation during the past few years and the average of January-August, 1933, may therefore be taken as typical of recent prices. In calculating the landed prices without duty we have taken landing charges at a uniform figure of Rs. 2·75 which on the information we have received represents the average charges at Indian ports. With regard to galvanized sheets, on which the existing duties are fixed under the Ottawa Agreement Act, there have been hardly any quotations for Continental sheets in the first half of 1933, while the price of British sheets was determined by the arrangements made under the Ottawa Agreement. We have therefore estimated the import prices on the same basis as that adopted by the Indian delegation to Ottawa. The British price is the lowest figure which the Ottawa delegation assumed to give the

manufacturer in the United Kingdom a reasonable return, while the Continental price is the lowest actually quoted in recent months in the Indian market.

Estimated duties.

96. On this basis the following table has been prepared showing the landed prices without duty of the various classes of imported steel products, the fair selling prices f.o.r. port, and the duties required to make up the difference:—

TABLE XXIII.

	Landed price without duty. Rs. per ton.	Fair selling price f.o.r. port. Rs. per ton.	Duty required. Rs. per ton.
Rails	113	103	*Nil*
Fishplates	151	141	*Nil*
Structurals—			
(1) United Kingdom (tested).	113	111	*Nil*
(2) Continental (untested) .	64	107	43
Bars—			
(1) United Kingdom (tested).	96	106	10
(2) Continental (untested) .	67	106	39
Plates—			
(1) United Kingdom (tested).	114	110	*Nil*
(2) Continental (untested) .	84	109	25
Semis	64	59	*Nil*
Black sheets—			
(1) United Kingdom (tested).	119	130	11
(2) Continental (untested) .	97	129	32
Galvanized sheets—			
(1) United Kingdom . .	160	170	10
(2) Continental . . .	130	170	40
Sleepers	86	87	*Nil*

Estimated duties compared with previous duties.

97. In the following table the duties estimated by us are compared with the existing duties as well as those recommended by the Tariff Board in 1926:—

TABLE XXIV.

	Duties recommended by the Board in 1926. Rs. per ton.	Existing specific duties. Rs. per ton.	Present estimated duties. Rs. per ton.
Rails	13	16¼	*Nil*
Fishplates	6	7½	*Nil*
Structurals—			
(1) United Kingdom (tested) .	19	23¾	*Nil*
(2) Continental (untested) .	30	37½	43

TABLE XXIV—*contd.*

	Duties recommended by the Board in 1926. Rs. per ton.	Existing specific duties. Rs. per ton.	Present estimated duties. Rs. per ton.
Bars—			
(1) United Kingdom (tested) .	26	32½	10
(2) Continental (untested) .	37	46¼	39
Plates—			
(1) United Kingdom (tested) .	20	25	*Nil*
(2) Continental (untested)	36	45	25
Black sheets—			
(1) United Kingdom (tested) .	35	43¾	11
(2) Continental (untested) .	59	73¾	32
Galvanized sheets			
(1) United Kingdom . .	38	53	10
(2) Continental	38	83	40
Sleepers	10	12½	*Nil*

Present estimate of fair selling prices compared with existing prices and Board's estimate in 1926.

98. In Table XXV we compare the prices including the proposed duty assumed by the Tariff Board in 1926, with the duty paid prices in January-June, 1933, and the fair selling prices as proposed by us:—

TABLE XXV.

	Duty paid price assumed by the Board in 1926. Rs. per ton.	Price in January-June, 1933 (duty paid). Rs. per ton.	Fair selling price proposed by us. Rs. per ton.
Rails (f.o.r. works)	110	110	95
Fishplates (f.o.r. works) . . .	148	148	133
Structurals (f.o.r. port)—			
(1) United Kingdom (tested) .	123	135·7	111
(2) Continental (untested) . .	116	98·6	107
Bars (f.o.r. port)—			
(1) United Kingdom (tested) .	134	127·9	106
(2) Continental (untested) . .	127	110·8	106
Plates (f.o.r. port)—			
(1) United Kingdom (tested) .	135	138·6	110
(2) Continental (untested) . .	128	125·7	109
Semis (f.o.r. works)	87	83	53
Black sheets (f.o.r. port)—			
(1) United Kingdom (tested) .	188	162·4	130
(2) Continental (untested) . .	181	168·9	129
Galvanized sheets (f.o.r. port) . .	270	219·6	170
Sleepers (f.o.r. port)	115	94	87

The prices now proposed represent a substantial reduction as compared with the estimated prices in 1926 and except in the case of untested structurals, with the actual prices in January-June, 1933.

Average protection under the Board's proposals.

99. It will be seen from the preceding tables that the need for protection is now confined entirely to competition from Continental imports. No protective duties are required against British imports except bars and sheets. The duties required on these do not however exceed the normal level* of revenue duties and are considerably below the existing level. Taking the proportions of sales by the Company of tested and untested steel at the figures of 1932-33, namely:—

	Tested. Per cent.	Untested. Per cent.
Structurals	15·3	84·7
Bars	9·3	90·7
Plates	40·4	59·6
Black sheets	0·8	99·2

the total output of saleable steel on which no protective duties at all are required may be estimated as follows:—

	Tons.
Rails	80,000
Fishplates	3,000
Structurals (tested)	17,900
Plates (tested)	14,140
Semis	110,000
Sleepers	15,000
	240,040

which is equivalent to about 43·6 per cent. of the estimated average output. The total amount of protection required per annum is as follows:—

TABLE XXVI.

Structurals (untested)	43 × 99,100 =	Rs.	42,61,300
Bars (tested)	10 × 7,440 =	,,	74,400
Bars (untested)	39 × 72,560 =	,,	28,29,840
Plates (untested)	25 × 20,860 =	,,	5,21,500
Black sheets (tested)	11 × 200 =	,,	2,200
Black sheets (untested)	32 × 24,800 =	,,	7,93,600
†Galvanized sheets (United Kingdom) .	10 × 77,000 =	,,	7,70,000
Galvanized sheets (non-United Kingdom)	40 × 13,000 =	,,	5,20,000
		Rs.	97,72,840

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* For the purpose of this enquiry we take as the normal rate of revenue duty 10 per cent. which was the general rate at the beginning of 1931. The present rate of revenue duty on unprotected steel is based on the Ottawa Agreement Act. Before the Act, the general rate was 15⅝ per cent.

† The proportion in which Indian galvanized sheets will compete against imports from United Kingdom and foreign countries is taken at 6 to 1 which is approximately the proportion in which they were imported from United Kingdom and elsewhere in 1933.

The total value of all products manufactured by the Steel Company calculated on the above proportions at the landed prices without duty (as shown in paragraph 96) amounts to Rs. 510·2 lakhs. The amount of protection required therefore works out on the average at 19·1 per cent. If the present average duty on unprotected steel is taken at 15⅝ per cent., the average protection required by the Steel Company over and above the present revenue duty may be estimated at about 3·5 per cent.

Effect of increased use of tested steel on protection required.

100. For the purpose of illustrating the possible effect of an increase in the demand for tested steel (*i.e.*, the steel which is sold in competition with British steel), we have made a similar calculation on the assumption that the proportions of sales of tested steel revive to the level assumed by the Tariff Board in 1926. The proportions assumed by the Tariff Board in 1926 were as follows:—

	Tested. Per cent.	Untested. Per cent.
Structurals	57·1	42·9
Bars	28·6	71·4
Plates	71·4	28·6
Black sheets	20·0	80·0

On these figures the total quantity of saleable steel on which no protective duties at all would be required would be—

	Tons.
Rails	80,000
Fishplates	3,000
Structurals (tested)	66,807
Plates (tested)	24,990
Semis	110,000
Sleepers	15,000
	299,797

which is equivalent to 54 per cent. of the estimated average output. The total amount of protection required per annum would be—

TABLE XXVII.

Structurals (untested)	Rs. 43×50,193 =	Rs. 21,58,299
Bars (tested)	„ 10×22,880 =	„ 2,28,800
Bars (untested)	„ 39×57,120 =	„ 22,27,680
Plates (untested)	„ 25×10,010 =	„ 2,50,250
Black sheets (tested)	„ 11× 5,000 =	„ 55,000
Black sheets (untested)	„ 32×20,000 =	„ 6,40,000
*Galvanized sheets (United Kingdom)	„ 10×77,000	„ 7,70,000
„ „ (non-United Kingdom)	„ 40×13,000 =	„ 5,20,000
		„ 68,50,029

The total value of the average output of the Steel Company calculated on the above proportions at the duty free landed prices amounts to Rs. 548·4 lakhs. The amount of protection required would then work out on the average at 12½ per cent. of the duty free value of the products. There seems however to be reason to presume that complete return to the previous proportions of tested and untested steel is unlikely to occur.

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* The proportions of imports from United Kingdom and elsewhere are based on the 1933 figures.

India's natural advantages compared with the Continent's.

101. From the foregoing analysis we may draw the following conclusions. First, on articles sold by the Steel Company in direct competition with British imports, either no protective duties are required at all or if any are required, the rates are lower than the normal rates of revenue duty. Secondly, the extent to which protection is required by the Indian steel industry over and above the normal level of revenue duty is largely conditioned by the proportions in which tested and untested steel are in demand. If the demand for tested steel revives and attains normal proportions the amount of protection derived by the Indian industry under our proposals will be diminished automatically and approximate closely to the normal rate of revenue duty. Thirdly, since the need for protection is due to the low price of untested steel in which competition comes entirely from the Continent, it is to the prices of Continental steel (and of steel from countries other than the United Kingdom) that the necessity for protection is to be attributed. Continental prices have shown an extraordinary degree of fluctuation during the past few years and often appear to bear no definite relation to the costs of manufacture. The sale of Continental steel is effected through an international organisation which apparently regulates prices for export markets according to the local conditions of each market and not necessarily to the expenses of production. It is against this class of competition based on indeterminate and often uneconomic prices that the Indian industry now requires protection. It will be noticed from the tables in paragraphs 99 and 100 that nearly 70 per cent. of the total amount of protection required by the Indian industry is in respect of untested structurals and bars which constitute the bulk of the articles imported from the Continent. To this extent therefore it is reasonable to suggest that the protection which we now propose for the Indian steel industry may be regarded as in the nature of an anti-dumping provision rather than as a measure of substantive protection.

Comparison of Indian and Continental Steel production.

102. Since the necessity for continuing protection to the Indian steel industry is due to Continental competition, the question may well be asked whether the natural advantages possessed by the steel industry on the Continent are such that the Indian industry may never be able to dispense with protection. We have examined this matter very carefully in the light of the information available to us and we are satisfied that if full economic prices, that is, prices including all necessary commercial charges, were quoted for Continental steel shipped to India, the Indian industry would need no assistance apart from that afforded

by the revenue duty. The Indian industry possesses the great advantage of a low cost of pig iron due to the high iron content and low cost of the ore and the low cost of coal. Even in the case of districts such as Alsace and Lorraine and Luxemburg where iron ore is obtained cheaply in open workings and is smelted in furnaces located close to the mines, the low iron content of the ore renders production more expensive on account of the larger quantities of ore handled and the larger consumption of coke necessary to smelt it. We believe that as regards France, Belgium and Luxemburg which are the Continental countries principally competing with India, the advantage possessed by the Indian steel industry in this respect may be taken at not less than Rs. 8 per ton. On the other hand, the employment of the Basic Bessemer process renders the cost of manufacturing steel from pig iron lower on the Continent. By reason of the low phosphorus content of Indian pig iron, the process is inapplicable in India. The principal economy obtained by the Basic Bessemer process on the Continent where high phosphorus iron is available is on account of the credit realised by the sale of "basic slag" with a high phosphorus content for agricultural purposes. This, however, according to our information does not in many cases exceed Rs. 5 per ton. The advantage possessed by the Indian industry in the low cost of its pig iron is therefore in our opinion sufficient to offset the economy obtained on the Continent by the use of the Basic Bessemer process.

Possibility of dispensing with protection against Continent.

103. From the point of view of natural advantages, we see no reason to assume that India is under any handicap as compared with Continental countries in the manufacture of steel. With the reductions in works costs which we have estimated, we believe that by the end of the next period of protection, Indian works costs will be no higher than on the Continent. Whether protection against Continental steel will then be required will therefore depend on how far overhead charges and profits calculated on a commercial basis are included in the selling prices of Continental steel. On the average fair selling prices on which our proposals are based, it will be noticed that in the case of imports from the Continent, the duties estimated are required to meet the amounts of overhead charges and profit.

TABLE XXVIII.

	Overheads and profit. Rs. per ton.	Duties estimated— other than United Kingdom. Rs. per ton.
Structurals (untested)	43	43
Bars (untested)	37	39
Plates (untested)	39	25
Black sheets (untested)	43	32
Galvanized sheets	50	40

As regards merchant products such as structurals and bars in which Continental competition is most acute, the estimated duties almost exactly correspond to the sums allocated for overhead charges and profit. The duties on other articles are less than the amounts required for these. The disparity between the capital charges included in our fair selling prices and those in the selling prices of Continental steel will to a considerable extent disappear as the renovation of the steel plants erected or rebuilt with the aid of subsidies in the war devastated areas of Belgium and France falls due. The funds required for this, so far as the depreciation set aside in recent years has been inadequate, will necessarily have to be met by fresh capital raised from private investors on commercial terms. Considering the normal life of a steel plant, we are probably justified in assuming that the charges arising from such capital expenditure will lead before long to more economical prices being charged.

Justification of allowing normal depreciation and profit.

104. It is however a legitimate question whether at a time of economic depression like the present it is in the public interest to base the protection for the Indian industry on depreciation and profit calculated at normal rates. As far as depreciation is concerned, the question raises hardly any difficulty. The reductions we have estimated in the works costs are largely based on the assumption that depreciation at normal rates is set aside every year and is utilised for improvements and replacements during the period of protection. On any other assumption the estimated costs and consequently the protective duties required will be considerably higher. No relief in the burden of protection will therefore be possible by reducing the rate of depreciation. As regards the allowance for profit, the question is admittedly more difficult. In deciding to base our estimates of the fair selling price on normal rates of profit, we have been influenced entirely by the consideration that on no other basis is it likely that an expansion of the Indian steel industry will take place. Even on the present restricted market for steel, there is, we believe, room for the erection of another steel works in the country with an economical output. We regard this as a most desirable development in the general interests of the country and the logical consummation of the policy of discriminating protection. It would be short-sighted, at a time when the Indian industry is within measurable distance of being able to dispense with protection, to adopt a policy which might preclude such a possibility. Considering that the steel prices now proposed represent a substantial reduction as compared with existing prices, it may also be pointed out that the adoption of a normal rate of profit in the fair selling price can hardly be regarded as unfair.

CHAPTER VI.

The Scheme of Protection.

Proposed arrangement for purchase of rails and fishplates.

105. We propose now to discuss the method by which the protection estimated in the last chapter should be granted to the steel industry. In the case of rails and fishplates we consider that the best means of assisting the industry is to ensure that the requirements of Indian railways are purchased in India up to the total capacity of the Indian industry at a price not below the fair selling price estimated by us. For rails we have estimated an average fair selling price of Rs. 95 per ton f.o.r. Tatanagar. This applies to ordinary rails. In the case of special classes of rails such as 115 lbs. rails and chromium steel rails, a margin should be allowed over the price of ordinary rails similar to those which are now in force. We suggest that the agreement with the Tata Iron and Steel Company should be made for the period ending March 31st, 1941. It is necessary in fixing the terms of the agreement that the possibility of other steel works being started in the country during the next period of protection should be kept in view. Provision should be made in the agreement that if during the period of protection other steel works equipped for the manufacture of rails are erected in India, and if the requirements of Indian railways exceed 80,000 tons a year (which is the demand we have assumed in estimating the output of the Jamshedpur works) the surplus orders, subject to considerations of price, quality and delivery, may be placed with other Indian companies. So long as the total quantity of orders for rails placed annually does not fall below 50,000 tons, no revision of the fair selling price estimated by us will be necessary. Similar arrangements should be made regarding the purchase of fishplates. The price fixed for fishplates should not be less than Rs. 133 f.o.r. Tatanagar and so long as the requirements of railways justify it, orders not below 3,000 tons should be placed with the Tata Iron and Steel Company during the period of agreement. Since the landed prices of imported rails and fishplates without duty are higher than the fair selling prices estimated f.o.r. port, it is unnecessary to include any protective duties on these articles in the Tariff Schedule.

Proposed specific duties

106. Among articles other than rails and fishplates, the following require no protective duties:--

(i) Structurals (tested) of British Manufacture;

(ii) Plates (tested) of British Manufacture;

(iii) Semi finished steel;

(iv) Steel sleepers.

On the remaining classes of steel, we recommend that protective duties should be levied in the form of specific duties at the following rates:—

TABLE XXIX.

	Rs. Per ton.
Structural sections (untested) not of British manufacture	43
Bars (tested) of British manufacture	10
Bars (untested) not of British manufacture . .	39
Plates (untested) not of British manufacture . .	25
Black sheets (tested) of British manufacture . .	11
Black sheets (untested) not of British manufacture .	32
Galvanised sheets of British manufacture . . .	10
Galvanized sheets not of British manufacture . .	40

Preferential duties on galvanized sheets.

107. We have based our proposals on the system of differential duties embodied in the Steel Industry (Protection) Act. We have received no complaint in this enquiry that this system has resulted in any hardship either to the steel industry or to users of steel or that its working has presented any difficulties. We see therefore no reason to consider any change in the present system. The duties under our scheme of protection are based generally on the current market prices of British and Continental steel. In the case of galvanized sheets, however, we have estimated the duties on a different basis. Since November, 1932, the price of galvanized sheets has been fixed at an artificial level under the Ottawa Agreement. No direct information is therefore available regarding the level of market prices under ordinary competitive conditions and our estimate of market prices has in consequence to be based on somewhat arbitrary considerations. Two alternative methods have been open to us, first, to take the average price in the earlier half of 1932 and adjust it for the variation in the price of spelter since that period and secondly, to proceed on the basis of calculation adopted by the Ottawa delegation, namely, to take the United Kingdom price at the lowest figure which the delegation considered would give a reasonable return to the British manufacturer and to take the Continental price at the lowest figure actually reached in recent importations. Under ordinary conditions we should be inclined to adopt the first method in estimating the measure of protection. The United Kingdom prices in that case would be almost the same as Continental prices and there would be no scope for differential duties. We have however decided to adopt the other method which is calculated to give the British manufacturer a definite advantage consistently with the interests of the Indian industry. Our object in doing so is to maintain as far as is now possible the principle of reciprocity underlying the Ottawa Agree-

ment relating to galvanized sheets. The advantages offered to India in return for the preferential duties on galvanized sheets under the Ottawa Agreement were first the exemption from import duty and facilities for the sale of a specified quantity of Indian pig iron in the United Kingdom and, secondly, the provision of a definite market in the United Kingdom for Indian sheet bar. The latter is now of much less importance to India than at the time of the Ottawa Agreement because of the increased capacity for the manufacture of sheets in India and the possibility of a larger demand for billets from re-rolling mills in India. The exemption of Indian pig iron from import duty and the arrangement for its sale in the United Kingdom are however still matters of some importance to the Indian industry. We understand that the question of renewing the existing agreement regarding pig iron is now under consideration. We suggest that in return for the preference granted under our proposals on galvanized sheets imported from the United Kingdom the exemption of Indian pig iron from duty in the United Kingdom and the provision of a satisfactory market for it there may be justly demanded as reciprocal benefits to India.

Period of protection.

108. We recommend that the scheme of protection proposed by us should continue in force until the 31st March, 1941. Including the period for which the existing scheme has been extended beyond the statutory term, the Indian industry under our proposals will receive protection for another period of seven years. The capital replacements and improvements on the basis of which we have estimated the reductions in works costs will necessitate a total expenditure approximating to the aggregate depreciation likely to be earned by the Company over a period of seven years. We think it unlikely that during the next few years it will be possible for the Company to raise the funds required for this expenditure in the market. For this reason alone it is necessary that the protection recommended should continue for seven years. While in the present conditions of industry and trade we cannot for obvious reasons estimate with precision how long protection will be required, we believe, considering the progress made by the Indian industry during the past seven years and assuming a revival of Continental prices to a more economical level that the Indian industry will, within the next seven years, substantially approach the stage of being able to dispense with protection.

Provision for off-setting duties.

109. In order to maintain the protection granted to the industry, it is essential that the scheme of protection should embody a provision for the variation of the duties if unexpected changes in the conditions of the market render it necessary. The power to vary the duties in such circumstances should be vested in the Governor General in Council to be exercised as occasion arises without a previous enquiry by the Tariff Board and without recourse to legislation. We cannot emphasise too strongly the importance

of including a provision on these lines in the scheme of protection. The provision for varying duties by executive action should be applicable equally in the case of a fall and of a rise in prices. Without such a proviso the protection granted to the industry may be rendered seriously ineffective or the burden placed on the consumer unnecessarily heavy. Although at the instance of the Tariff Board a provision for off-setting duties has been included in the present Steel Protection Act, it has never, so far as we are aware, been employed in the form intended by the Tariff Board and the legislature. The essence of a provision for off-setting duties is that it should be put in operation with the utmost celerity if circumstances justifying its use arise.

Measures required for prompt application of off-setting duties.

110. It will facilitate the prompt application of this provision if Collectors of Customs are instructed to submit periodical statements of steel prices and also to report any special consignments arriving at their ports which indicate a substantial fall in prices. The operation of off-setting duties should whenever possible be restricted to the offending countries. If, however, the existence of the Most Favoured Nation clause in commercial treaties to which India is a party prevents their application to individual countries, the duties should be applied to all countries other than the United Kingdom. From the point of view of the broader interests of the country such as the maintenance of a proper balance of trade, the ideal solution in many cases may be found in special agreements with the countries in question. This however will entail serious delay in the grant of assistance to the Indian industry by reason of the prolonged negotiations involved in the formation of trade agreements. It is therefore necessary that in such cases the enforcement of off-setting duties should precede any negotiations towards a settlement by agreement.

Off-setting duties applicable to changes in costs.

111. Variations not merely in import prices but also in the manufacturing and transportation costs of the Indian industry may render a modification of the protective duties necessary. We have, for example, assumed for the purpose of estimating future costs that the price of coal delivered at Tatanagar will not exceed Rs. 5-12 per ton before the end of the period of protection. It is obvious that any substantial changes in the price of coal will seriously affect the measure of protection estimated by us and that it is necessary to make suitable provision for adjusting the duties if this happens. Similarly we have assumed in estimating the works costs and the freight disadvantage of the Indian industry that the freight rates charged by railways will remain at the level indicated by the recent agreement in the case of the Bengal Nagpur Railway and by the present freight rates in the case of other railways.* If during the period of protection freight rates are substantially altered as compared with those assumed by us, it is essential that the duties estimated should be adjusted correspond-

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* See note at the end of the chapter.

ingly. We recognise that the extent to which the protective duties should be altered on account of changes in manufacturing and transportation costs is a matter which will require greater scrutiny and more detailed enquiry than in the case of changes in import prices. The enquiry however should be free from the lengthy routine and formalities associated with a Tariff Board investigation. Although we consider an enquiry necessary in such cases, we propose that any alteration in the duties in consequence of such an enquiry should be applied under the provision for off-setting duties and not by way of legislative amendment. We do not contemplate any action in this respect unless the variations in question are substantial. An alteration of coal prices or railway freight rates to an extent not exceeding 10 per cent. of the rates assumed by us is not, for example, of sufficient importance to justify an alteration of duties. Such variations must be accepted by the industry as part of the ordinary risks of business.

Off-setting duties applicable to articles requiring no duties now.

112. We desire to point out that it may become necessary, if the factors on which the estimate is based vary during the period of protection, to levy duties under the provision for off-setting duties even on articles on which no protective duties are required in our estimate. For this purpose we recommend that all the articles considered in this report, including those on which no protective duties are proposed, should be shown in part VII of the second Tariff Schedule. In our scheme of protection, the duties on the various products are vitally inter-related, and any alteration in the data on which any individual duty is based may, unless the duty is adjusted, have the effect of upsetting the general balance of our scheme. It is essential, therefore, that the provision for off-setting duties should be applicable equally to articles on which no protective duties are now recommended.

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Margin against unforeseen circumstances.

113. In its representation the Tata Company has expressed its anxiety to have within the measure of protection some margin against unforeseen circumstances, apart from a fall in the level of prices or an increase in manufacturing and transportation charges, and quotes as examples a strike, an unavoidable breakdown of plant or of transport. We do not think that the machinery we have suggested is suitable for dealing with any of these contingencies, and it is not possible for us to make any recommendation to meet hypothetical conditions which might or might not justify a special enquiry. It seems desirable however to point out that *primâ facie* calamities such as those referred to must fall upon the reserves of the Company, and that our proposals include an annual provision of Rs. 100 lakhs to meet interest on the capital value of the Company's property, which must in the first instance bear the brunt of any such unfortunate event. For all ordinary risks sufficient provision exists in the surplus above the fair selling price which the Company will receive on its semi-

finished steel and in the extra profit on untested steel which may be expected during the continuance of the present cartel prices.

Removal of revenue duties on certain articles.

114. We recommend that no duties should be imposed for revenue purposes on tested structurals, tested plates and billets for re-rolling none of which require protection.* All these are essential materials for the manufacture of other articles included in the scheme of protection. It will be seen later that in estimating the measure of protection required for subsidiary industries we have assumed that no revenue duties would be levied on tested structurals and plates and on billets for re-rolling. If revenue duties are imposed on such materials, the duties required on the products of engineering and other subsidiary industries will be substantially higher than we have estimated. Since most of these products are used in public utility works, it will be realised that any increase in the duties on these products which is not required on protective grounds will create an undesirable burden on the public. The fall in demand for fabricated steel in recent years has been so great that it is essential in order to encourage the growth of demand to keep prices at as low a level as is consistent with the interests of the Indian industry.

Importance of admitting billets free of duty.

115. The removal of the revenue duty on billets imported for re-rolling is an indispensable part of the scheme of protection as outlined by us. We have in an earlier part of this report stressed the importance of encouraging the growth of re-rolling mills and referred to the difficulty of their relations with the major industry. Most of these mills are or will be dependent for the bulk of their material on the billets rolled by the Tata Iron and Steel Company. At the same time they have to find a sale for at least a considerable part of their products in competition with the Tata Company. This situation naturally may lead to complications. Although there is capacity on the Steel Company's sheet bar and billet mill to satisfy the requirements of re-rollers during the next few years, difficulties often arise not merely regarding the prices at which billets are sold but also the regularity and continuity of supply. We think that the difficulties of re-rollers can only be solved by the provision of an alternative source of supply at no material increase in cost. Till another steel works with the necessary equipment is created, imports must provide the only alternative source of supply.

Surplus likely to be earned on semi-finished steel.

116. The fair selling prices estimated by us for billets are Rs. 53 f.o.r. Tatanagar and Rs. 59 f.o.r. port. The landed price of imported billets without duty has been taken by us at Rs. 64. If the price of billets supplied by the Tata Iron and Steel Company is determined by competition with

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* It is proposed for administrative reasons that the removal of revenue duty on billets should take the form of exemption by notification under Section 23 of the Sea Customs Act (see Tariff Schedule 102g).

imported billets without duty, the price to re-rolling mills situated at port will be Rs. 64. It is on this price that we have based our proposals regarding railway materials manufactured by Messrs. Henry Williams at their works in Calcutta. We have also assumed a price of Rs. 64 for billets supplied to the Indian Steel and Wire Products. It is obviously unfair that the price to a mill situated at Tatanagar should be higher than to a mill in Calcutta, although if the price were fixed with reference to that of imported billets, the price to the Indian Steel and Wire Products would be higher by the amount of freight from Calcutta to Tatanagar. Even a price of Rs. 64 at Tatanagar will leave the Steel Company with a substantial surplus over the fair selling price. In the absence of any definite arrangement we have assumed Rs. 64 as the price of billets in the proposals we have made regarding wire and wire nails. So long as the landed price of imported billets does not fall much below Rs. 59, the Steel Company will earn on its billets a surplus which will be large enough to justify lower prices than we have assumed.

Free admission of billets will not displace indigenous products.

117. An objection which may be raised against the admission of billets free of duty is that merchant steel manufactured by re-rolling mills at ports may be sold at lower prices than the Tata Company's products. We do not regard this objection as valid. The selling price of bars manufactured from imported billets by a re-rolling mill is not likely to be less than that estimated for the Tata Company. The following may be considered the minimum selling price of bars produced by a re-rolling mill: –

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	Rs.
Imported billet per ton	64·0
Wastage	6·4
	70·4
Less credit for scrap	2·0
	68·4
Rolling charges	23·0
Depreciation, interest and profit	7·2
Fair selling price *ex-works*	98·6

The fair selling price estimated for bars for the Tata Company f.o.r. Tatanagar is Rs. 94. A re-rolling mill having neither the organisation nor the goodwill possessed by the Tata Company, its selling expenses will be considerably higher and the prices realised by it will fall short of import prices by a larger margin. Making no allowance for freight disadvantage for a re-rolling mill at port, its fair selling price will still exceed the price estimated for the Tata Company f.o.r. port. A figure of Rs. 108 may be regarded as the minimum fair selling price f.o.r. port for a re-rolling mill against Rs. 106 estimated by us for the Tata Company. In our opinion except in the case of special sections not rolled by the Tata Company, the scope of re-rolling mills in India in the near future will be practically limited to supplies against urgent requirements or in the more distant markets which the basic industry may be unable to provide economically.

Estimated loss of revenue if duties are removed.

118. On the figures of imports of tested structurals and tested plates in 1932-33 the amount of revenue, calculated at 15⅝ per cent. *ad valorem*, is approximately Rs. 2½ lakhs per annum. On semi-finished materials the revenue calculated at 20 per cent. is not more than Rs. 20,000. On the average of the three years ending March 1932, calculated on the same basis, the revenue on tested structurals and plates amounts to approximately Rs. 7 lakhs per annum while that on semi-finished materials is practically the same as on the figures of 1932-33. The annual revenue likely to be derived by Government from import duties on these articles levied at revenue rates may range during the period of protection from about Rs. 2½ lakhs to Rs. 7 lakhs per annum. We do not presume to estimate how far it will be necessary, if Government agree to our proposal, to make up a deficiency in revenue of this amount by other means of taxation.

Tentative estimate of general loss in revenue.

119. We have attempted also to estimate the loss of present Customs revenue likely to result from our proposals to reduce the protective duties. It is impossible to calculate this loss with any degree of accuracy since there are several uncertain factors involved such as the extent to which variations may occur in future as regards the quantities and prices of imported steel. In order to arrive at a tentative estimate, we have assumed that the quantities of rolled steel imported will remain at the same level as in 1932-33 and also that the loss in revenue per unit of product will be measured by the difference between the existing specific duties and those proposed. Calculating on this basis, we anticipate that the total loss in revenue per annum will be roughly Rs. 60 lakhs. Of this approximately 75 per cent. is accounted for by the reduction in the duty on galvanized sheets. Considering the assumptions on which it is based we cannot obviously claim any finality for this estimate. Unless Indian production expands much beyond the capacity of the existing works the quantities of rolled steel imported may be expected to show a considerable increase over the figures of 1932-33. We have provided that *ad valorem* revenue duties in almost every instance shall be alternative to the specific duties and since the revenue derived from *ad valorem* duties must vary with the prices of imports, it is likely that if the present upward trend of steel prices continues, the loss in revenue per unit of product will be less than we have estimated. Whatever forecast may be finally arrived at, it is clear that the greater part of the probable loss in revenue will be due to the proposed reduction in the duty on galvanized sheets. We have already laid stress on the benefit of this proposal to the

agricultural community. We may also point out that the duty proposed on galvanized sheets imported from countries other than the United Kingdom, although less than the existing duty, is slightly higher than that proposed by the Tariff Board in 1926.

Excise as an alternative source of taxation.

120. The general question of replacing by some other source of taxation the Customs revenue lost to Government by reason of the policy of protection is one which the country must be prepared to face sooner or later. An obvious way of meeting the situation is to levy an excise duty, provided the protective duty is increased at the same time by a corresponding amount so as not to impair the measure of protection granted to the industry. The same principle may be applied to individual articles manufactured by a protected industry on which no protective duty is required by levying the duty on both imports and local production at a uniform rate so calculated that on the total consumption the aggregate amount of revenue desired by Government may be realised. Such a course has the advantage, besides safeguarding the Indian industry and supplying the deficiency in revenue, of preventing so high a rise in prices as will follow if the whole duty is levied in the form of an import duty. Should Government consider it necessary to levy a revenue duty on tested structurals and plates either wholly as an import duty or partly as an import duty and partly as an excise duty, an increase in the protective duties we have proposed for subsidiary industries would be required. This increase will be measured by the import duty calculated on the quantity (including wastage) of the materials used in making the products of such industries.

Co-operation between British and Indian industries.

121. The National Federation of Iron and Steel Manufacturers in the United Kingdom have suggested the desirability of making arrangements for co-operation in the Indian market between the steel industries in the two countries. While the Federation recognise that the Indian industry should have the first claim on the Indian market to the extent of the whole of its output, they propose that the balance of the Indian market for both tested and untested steel should be supplied by the steel industry in the United Kingdom at prices corresponding to the fair selling prices fixed for the Indian industry. Obviously the working of an arrangement of this character will depend very much on the detailed provisions embodied in it and on the amount of goodwill and co-operation between the parties to the agreement. Pending the decision of the Government of India regarding the continuance of protection, neither the British nor the Indian industry is naturally in a position to state the exact terms on which such an arrangement could be made. To some provisions suggested by the British industry, the Tata Iron and Steel Company has already raised objections. It seems to us, therefore, of little practical advantage at this stage to discuss in detail the tentative suggestions submitted by the National Federation in this connection.

Advantages and difficulties considered.

122. That in the present unsettled conditions of world trade the interests of national industries can be safeguarded more effectively by trade agreements than by tariff adjustments is generally admitted. The stability of British steel prices in India during the past few years as compared with Continental prices strengthens the suggestion that there is greater certainty of stability of prices being maintained by agreement with the steel industry in the United Kingdom than with that of other countries. How far the interests of the Indian industry and of the Indian consumer can be safeguarded under an agreement is however a question which would require careful consideration. It is obvious that any agreement should provide for the progressive development of the Indian industry either by the expansion of the present works or by the erection of other works including re-rolling mills. To make the necessary provision for this in a workable manner in the agreement may present greater difficulties than is imagined. It is possible that price arrangements between two industries to the exclusion of others may lead to an increase in prices to the detriment of the consumer, since it often happens that agreed prices in such cases are regarded as minimum prices by the manufacturers. The provision for flexible duties in the Steel Protection Act is the only safeguard against such an increase in prices, but prompt application of such duties is essential if they are to be effective.

NOTE.—Since the Report was drafted, we have been informed that the revised freight rates on the Tata Company's traffic over the Bengal Nagpur Railway will involve a total additional expenditure to the Company of Rs. 22¼ lakhs per annum on the basis of the traffic carried during 1932 and Rs. 27 lakhs per annum on the basis of the traffic carried in April—November, 1933. The allowance made by us for increased freight charges on raw materials carried over the Bengal Nagpur Railway corresponds closely to the estimated total increase. On the other hand, the allowance we have made for increased freight disadvantage on finished products will provide the Company with a small surplus over the additional expenditure estimated.

We have also been informed that the special rate hitherto quoted by the East Indian Railway on the Tata Company's traffic from *viâ* Asansol and *viâ* Gomoh will now be replaced by the ordinary second class rate involving a total additional expenditure to the Tata Company of approximately Rs. 12 lakhs per annum. No specific allowance is made in our proposals for this expenditure. On a careful examination of the position, however, we are satisfied that no alteration of the duties proposed is at present called for.

As we have pointed out in paragraph 113, our proposals leave the Company *for the time being* with a surplus over the aggregate fair selling price which constitutes a sufficient provision against all ordinary risks. The sources from which this surplus will be derived are indicated below in the order of their importance:—

(1) The excess of current Continental steel prices over the average prices assumed by the Board.

(2) The excess of the prices of semi finished steel sold to the Tinplate Company and the Indian Steel and Wire Products over the estimated fair selling price.

(3) The excess of the estimated average price of coal over the current price.

(4) The excess of the allowance for freight disadvantage on the Bengal Nagpur Railway over the average disadvantage now estimated.

We consider that the total surplus derived by the Company under these heads will for the time being amount to approximately Rs. 30 lakhs per annum over and above the total protection required by the industry. Since the additional expenditure on account of the revised freight rates on the East Indian Railway is not more than Rs. 12 lakhs, it is fully covered by the temporary surplus on the duties proposed. It is probable that the figures on which the estimated surplus is based may alter materially hereafter to the disadvantage of the industry. In that case, it will be open to the Company to move Government for necessary action under the provision for off-setting duties.

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CHAPTER VII.

Technical Equipment and Efficiency.

123. In this Chapter we propose to make a brief survey of the technical conditions prevailing in the Tata Iron and Steel Company's works. In the course of the present enquiry, it was suggested by several witnesses that the demand for protection probably indicated serious defects in the equipment and lay-out of the works. In view of the general interest felt in this question, we have considered it advisable to prepare, with the assistance of our Technical Adviser, the following account of the Company's position in this respect and the directions in which improvements may be made.

Importance of low transportation charges on raw materials.

124. Even under the favourable conditions existing at Jamshedpur where ore high in iron content is used, approximately five tons of raw materials in the form of ore, coal and limestone are required for every ton of finished rolled steel. It can therefore be readily understood that the cost of these delivered at the works site is a matter of prime importance in determining the cost of making iron and steel. The cheapest iron and steel in England, on the Continent and in the United States is made from low grade ore with only about one-half the percentage of iron contained in ores available in Bengal. Coal is found close to the ore deposits and in many cases in spite of the fact that about double the quantity of ore and 25 to 50 per cent. more coal is consumed per ton of steel, the total transportation charges on these are less per ton of metal produced than at the Tata works, which are located about sixty miles from the ore mines and over 100 miles from the coal fields. Owing to the high quality of the ore and the low cost at which this and the necessary coal is mined the balance is in favour of the Tata Company at present, but this advantage could be seriously diminished or wiped out by an increase in the transportation charges, which are already an important item in the costs. The works referred to in other countries are not likely to be affected in this way as they are located very close to the ore fields, (so that little if any cost of transportation is incurred on the ore), and coal and limestone are also near at hand. In these countries steel is also made from high grade ore comparable in iron content with the Bengal ore, but in general this ore has to be imported from foreign countries or transported over long distances. The fact that in each country the lowest costs are shown by works under the handicap of using ore of indifferent quality but so located that the cost of transportation of raw materials is reduced to a minimum is striking evidence of the effect of high transportation charges.

Coal supply.

125. The coking coal available to the Tata Company makes coke which is reasonably good in mechanical condition, and this is important. But the coal is very high in ash, averaging about 16 per cent. and as the yield of coke from coal is approximately 75 per cent. the ash in the coke is over 20 per cent. This is about three times as high as the ash content of coke commonly used in England and elsewhere for blast furnaces. Although this is a disadvantage it does not affect the results so seriously as one might expect. It is necessary to maintain a certain minimum proportion of slag to iron volume in a blast furnace in order to retain the sulphur from the coke in the slag, otherwise it will pass into the iron as an objectionable impurity. Owing to the high iron content of Indian ore an unusually small volume of slag is produced by the ore and if a low ash coke were used the total volume of slag arising from the ash, together with that from the ore and the correct quantity of limestone added for fluxing, would not be sufficient to hold the sulphur. It is calculated, however, that a reduction in the ash content of the coke by about five per cent., if this were possible, would be a clear gain and would reduce the quantity of coke and limestone it is necessary to use at present. If the ash content of the coke were reduced further than this, slag producing material of some kind would have to be added to this burden and it would be questionable whether the cost of this would not be greater than the disadvantage of the excess ash contained in the coke.

Water supply.

126. An ample supply of water at low cost is a necessity as large quantities are used in connection with the generation of power and for cooling purposes at the furnaces and rolling mills. Doubtless the fact that the site is near the junction of two rivers was an important factor in determining the location of the works at Jamshedpur.

Coke ovens.

127. The coke oven plant is well laid out and coal is unloaded, crushed and delivered to the ovens by a system of belt conveyors at a low handling cost. The ovens are of the normal by-product type and the surplus gas is used as fuel in various departments of the works, tar and sulphate of ammonia being first extracted. In other countries benzol is one of the most valuable by-products recovered from similar coking plants. The reasons for not erecting a benzol recovery plant appear to be partly the fear that technical difficulties will be experienced in the condensation of the benzol from the gas, for which purpose cool water is required, and partly the difficulty anticipated in marketing it profitably through or in competition with the oil companies. Great improvements have taken place in recent years in connection with cooling operations and there seems little doubt that the technical difficulty feared by the Company could be overcome and the condensation of benzol successfully accomplished without seriously increasing the cost of the operation on account of the conditions of high temperature and humidity which obtain at Jamshedpur during several months of the year. As to the commercial aspect, this is a matter which can only be

decided in negotiation with the other parties interested. In its present programme of capital expenditure the Company provides for Rs. 20 lakhs for the erection of a benzol recovery plant but in view of the uncertainties of the position the credit which might arise therefrom has not been taken into account in arriving at the estimated costs of steel which it is considered should be achieved in future. The normal useful life of by-product coke ovens is from 15 to 20 years and as the Tata Iron and Steel Company's ovens have now reached or are approaching this age the Company is wise in its decision to undertake a re-building programme to be carried out over the next seven years. The sum provided for this purpose is Rs. 160 lakhs. Very important advances have been made in the design and construction of coking plants since the existing ovens were built and with modern ovens capable of meeting the full requirements of the blast furnaces very important economies can be effected which will reduce the cost of steel.

Blast furnaces.

128. The blast furnace plant is undoubtedly the outstanding feature of the Tata works. The furnaces are believed to be the only ones within the British Empire capable of producing iron at the rate of 1,000 tons per furnace every twenty-four hours. Similar results are however obtained by furnaces in America and in European countries. One furnace which is nearing the end of its life has produced over one million tons of iron since it was re-lined. This is a result seldom achieved in any part of the world. Another furnace which after re-lining was blown in in June, 1933, is showing excellent results producing an average of 1,000 tons a day with economical costs and low fuel consumption. Needless to say the equipment of this furnace plant is well up-to-date. The turbo blowers supplying the huge volume of air under pressure required for the blast are claimed to be the largest so far built. The one respect in which the plant falls short of modern requirements is now being made good by the installation of a gas cleaning plant to remove the dust from the waste gases issuing from the furnaces, the sum still to be expended to complete this being Rs. 9 lakhs. This addition should be complete and in operation during the current year and a marked economy should result. There is inevitably a large volume of dust arising from the immense quantities of ore, coke and limestone charged into blast furnaces which is carried off in the waste gas as it passes out from the furnace tops. This gas is used as fuel and the dust is deposited on the heating surfaces and chokes the flues of the stoves required for heating the blast and of the boilers used for generating steam for driving the turbo blowers and electric generators, and very materially reduces their efficiency. It is also necessary to put individual units of the stove equipment and boiler plants out of service at frequent intervals in order to clean out the deposited dust and maintain them in a reasonably efficient state. When the gas is cleaned before use there should be a marked gain in efficiency in the stoves and boilers. This will assist in bringing about the general reduction in coal consumption that is expected in future, for the amount of coal burnt under boilers at present to

supplement the waste gas should be materially reduced. Cleaning of stove and boiler combustion chambers and flues should be necessary only at long intervals and an appreciable saving result from this also. The full gain in efficiency of the stoves will, however, not be realised until these are re-bricked with the greater volume of bricks and smaller flues permissible when clean gas is used.

Duplex steel plant.

129. The Duplex process is employed for the production of the larger proportion of the Company's output of steel; this is a combination of the Bessemer and open hearth processes. The plant is a good example of its type but the costs of converting iron into steel ingots are not so low as those now being obtained by the simple open hearth process where modern furnaces are employed. In view of the demand for increased output in 1915 to meet war time conditions the Company's Consulting Engineers recommended the adoption of the Duplex process which was popular in America at that time, owing to the fact that considerably increased outputs are obtained by 'blowing' the iron in a Bessemer converter and reducing its carbon content to approximately that required in the finished steel and then transferring the metal to the open hearth furnace in which the refining process is completed. The carbon content is reduced much more quickly in the Bessemer converter than is possible in the open hearth furnace, while the finishing operation can be carried out under better control and more uniform results obtained by use of the open hearth furnace than are possible if the process is completed in the Bessemer converter. This combination of the two processes has not proved economically sound largely on account of the loss of metal which takes place in the Bessemer vessel in the process of blowing. In the Tata Company's plant this is about 10·5 per cent. which is quite a normal figure for the process. The increased cost due to the loss of metal together with the cost of operation and maintenance of the Bessemer vessels has proved to be greater than the saving realised by the increased output obtained from the open hearth furnaces. When iron is relatively costly the loss of metal makes the process prohibitive. Where the cost of iron is low as at the Tata works the process has the best chance of success but even so it is definitely known that lower costs are being obtained by the straight open hearth process where furnaces of up-to-date design and construction are used. There is no provision in the Company's programme of expenditure for improvements to this section.

Old open hearth plant.

130. The open hearth plant which is a portion of the old works presents a serious problem. Several of the furnaces it is safe to say are entirely obsolete in design. Other furnaces in the shop have been rebuilt and an effort made to improve them by such alterations in design as were possible within the limits allowed by the building in which they are located, and while these have shown improved results the costs are still far above those known to be possible with modern furnaces. In its programme of capital expenditure the Company has provided a sum of Rs. 40 lakhs for steel making plant and explains

that most of its open hearth plant is over twenty years old and should be re-built or replaced to secure efficiency. We have suggested elsewhere that this sum will require to be supplemented in order to secure a fully efficient plant. As has been pointed out, the Duplex process, which is mainly relied on at present, is not capable of converting iron into steel ingots at as low a cost as is possible by the open hearth process if efficient furnace and equipment are used. It would therefore seem advisable to build an open hearth shop of a capacity which would provide the greater part of the steel required and when this is complete and in full operation, to abandon the Bessemer converters and work the three open hearth furnaces in the present Duplex shop (with possibly a fourth furnace added to replace the converters) on the straight open hearth process, the reduced output resulting being made up by the increased output available from the new open hearth shop. Such a development would we believe involve nearly double the expenditure provided for in the programme. The old open hearth department would of course no longer be necessary and should be abandoned. With this change over effected the Company would have brought its steel making plant thoroughly up-to-date and would be in a position to produce steel ingots from iron at the lowest attainable costs. The programme would take some years to carry through and in estimating future costs for the purpose of ascertaining tariffs required to protect the industry it has not been assumed that during a period of seven years the cost of ingots will fall below that which can be attained by the Duplex process. It is clear however from known facts and figures that by a complete change over to the open hearth process with modern plant the Company can ultimately reduce costs below that figure.

Blooming Mill.

131. The first operation in converting steel ingots into saleable rolled steel products is to re-heat them and by rolling in the blooming mill reduce their cross sectional area (with a corresponding increase in length) to a size suitable to be dealt with by one or the other of the finishing mills. All steel irrespective of the product for which it is ultimately intended must first be rolled by the blooming mill and any break down or failure of this will affect the whole output of the works. It is therefore clear that it is of vital importance that this mill should be maintained in the best possible condition and well up to the work of dealing with the huge tonnage of material amounting to 60,000 to 75,000 tons per month which must pass through it. The blooming mill at the Tata works is of sound design on standard lines. It is over ten years old but should be capable of many more years useful work if carefully maintained. The outputs now being made are approaching its maximum capacity and the larger outputs which are anticipated cannot be realised if this mill fails to stand up to the increased amount of work it will be called upon to perform. There seems to be no reason to fear failure of the main components of the mill but the roller tables and manipulating gear used for handling the ingots during the process of rolling leave

something to be desired in their speed and accuracy of working and the output possible from the mill largely depends on the efficiency of these and other auxiliary components. No provision has been made in the Company's programme of expenditure from the depreciation fund for the upkeep of this vital unit, but any expenditure necessary to ensure its safety and ability to meet all demands which may be made on it should be a first call on the fund.

Sheet bar and billet Mill.

132. The sheet bar and billet mill is a modern type continuous mill which receives the blooms direct as they come from the blooming mill and rolls them down to billets, sheet bar, or tin bar, as required. The material passes through one stand of rolls after another without interruption or reversal of its direction of travel. The mill is efficient for its purpose and produces these semi-finished products at low cost. The Company proposes to spend a sum of Rs. 7 lakhs on alterations in order to make it possible to roll thinner and wider sheet-bar than is rolled at present, the object being to lessen the work of the sheet mills required to convert this bar into sheet, and so reduce the cost and increase the output of sheets. This alteration will involve the renewal of many parts in the sheet-bar and billet mill and when altered the mill should be in first class order and capable of large outputs for many years.

New 28″ Mill.

133. Railway rails and structural steel sections are rolled on the new 28″ mill. Blooms are charged into re-heating furnaces as they come from the blooming mill in order to bring them to the correct rolling temperature. The mill consists of an independently driven stand of 35 inch roughing rolls followed by the 28 inch stands and finally by a finishing stand, independently driven, through which one pass only is made. The cooling bed is well laid out as are also the arrangements for straightening, sorting and stocking or loading the finished material. The whole plant is well suited for producing rails and the heavier structural sections at minimum costs, having been much improved since the Board's report in 1926 by the addition of the 35 inch roughing stand and additional equipment for dealing with the rolled material after it leaves the mill. Light sections which could be more economically rolled on a smaller mill are at present rolled here but this matter will be mentioned later in connection with the old bar mill. Apart from normal repairs and minor replacements to make good wear and tear, no expense should be necessary for some years for the maintenance of this mill. The Company in its programme of improvements provides for a new re-heating furnace of the continuous type at a cost of Rs. 10 lakhs but it is not clear that this type of furnace would prove satisfactory under the conditions obtaining at this mill as the blooms are received at a relatively high temperature.

Plate Mill.

134. The plate mill is in a somewhat isolated position in the works and does not receive its supplies of material direct from the blooming mill as do the sheet-bar and billet mill and the 28″ mill. The slabs which are

rolled on the blooming mill must be loaded into railway wagons for delivery to the plate mill with the result that not only is extra handling involved but all slabs are cold by the time they arrive and the re-heating is more costly than would otherwise be the case. This is a condition not infrequently met with however in works where several finishing mills of different types are served by one blooming mill. The arrangements for handling and re-heating the slabs once they arrive at the mill are good. Coke oven gas is used for fuel and the furnaces are well arranged. The mill consists of two " three high " stands of rolls set in tandem and is well suited for producing light and medium weight plates. Exceptionally wide and heavy plates cannot be produced but there is little demand for these in India. The shearing to size and handling of the output of a plate mill is always a problem that presents difficulty and in the past the equipment and room available for this have proved inadequate. An effort has been made recently to improve the facilities by installing additional shears and extending the building to provide more space for sorting and loading the finished plates. Undoubtedly the conditions have been improved but should the demand for plates call for the maximum output of which the mill is capable, it is thought that even with the additions which have been made the facilities will prove inadequate. Except for providing for building an annealing furnace at a cost of Rs. 4 lakhs to avoid having to send plates which require this treatment to another department no provision is made in the Company's programme for expenditure in this mill.

Merchant Mill.

135. The Merchant mill produces bars down to half inch square or round, flat bars of similar weight and light structural sections. Billets from the sheet bar and billet mill are delivered at the re-heating furnace by the stock yard crane with a minimum amount of handling. The re-heating furnace which is of the continuous type is fired with coke oven gas. On being pushed from the furnace the heated billets pass through a train of continuous roughing rolls which reduce them to suitable size for the finishing rolls which are set in line in the usual way so that the direction of travel is reversed at each pass. From the finishing rolls the material is delivered on to an inclined cooling bed of great length and after passing over this is cut to the required length as it is passed on to the stocking and loading yard. The whole plant is well laid out and is efficient for the production of bars and light sections, the output of which averages about ten thousand tons per month. No provision is made in the Company's programme of expenditure for the maintnance of this mill but it does not appear that anything is likely to be required beyond ordinary maintenance and repair which are covered in the costs.

Sheet Mills.

136. It is unusual for a works making heavy rolled products such as rails, structural steel and plates to include also a department for producing sheets. There is no technical reason, however, why this should not be done and it is an important section of the Tata Company's

works accounting for some 20 per cent. of the total tonnage of steel products. Sheet bar is delivered direct to this department by the sheet bar and billet mill stockyard crane, is cut to the necessary lengths and charged into the re-heating furnaces at small cost of handling. The rolling of sheets involves hard physical work under conditions exposing the work people to considerable heat and it might have been expected that under the climatic conditions existing in India satisfactory results could not be obtained. By providing water cooled floor plates and suitable arrangements for supplying cool air at the working places the Tata Company has overcome any difficulties which might otherwise have been experienced and the production is carried on without any undue difficulty or apparent hardship on the employees.

The original mills were of the usual type used for many years in England, the material being entirely handled by hand in the process of rolling. During the early part of 1933 the Company started a new type of mill in which although the material is still handled by hand the work is divided between several stands of rolls and a substantial gain in output with a reduction in cost of rolling has been obtained. The Company proposes to install a second unit of this type at an early date which will replace several of the old mills and a third unit is contemplated, the total expenditure being estimated at Rs. 45 lakhs. With these improvements the department should be well up-to-date and probably in advance of any sheet mills in England or Europe. An extremely elaborate and costly type of continuous mill for rolling sheets has been developed in America with the object of eliminating hand labour but even under American conditions where huge outputs can in normal times be absorbed it is doubtful if this type of mill will be able to earn a reasonable return on the heavy capital expenditure involved, and it would seem to have no chance of success under Indian conditions. The greater part of the sheets are galvanized and of these only a small proportion are sold as plain sheets, the bulk being corrugated. The departments for carrying out this work and for annealing black sheets are well equipped and the finished product is stocked or loaded direct into railway wagons in a large and well arranged building.

Old Bar Mill.

137. The old bar mill is the only mill in the old rolling mill plant which has been worked during the past year. As compared with the new mills it is very inefficient as the cost of power, fuel for heating the billets and labour are all high. For this reason the mill which at best can only produce a small tonnage has been little used. The Company proposes to install a new 22″ mill at a cost of Rs. 30 lakhs to replace this old mill. Undoubtedly an efficient intermediate size mill to roll bars and sections which are too heavy for the merchant mill and too light to be rolled economically on the 28″ mill is a necessity to complete the Company's equipment, but it is not clear that a mill so large as 22″ is necessary or even desirable. A careful examination of the tonnages normally required within various ranges of sizes and of the total tonnage of blooms and slabs which

the blooming mill is capable of producing would, it is thought, show that a smaller mill, say 18″, would give a better distribution between the three mills. Probably with a mill of this size it would be advisable to install a roughing stand with rolls larger than 18″ in diameter so that blooms larger in size than would be suitable for 18″ rolls could be dealt with. Otherwise the blooming mill would be called upon to supply so large a tonnage of blooms of small size as to reduce its output and it is of great importance that this should be avoided. In addition to the advantage gained by rolling a certain range of bars and light sections more economically than at present an efficient intermediate mill would give the Company other advantages. By relieving the 28″ mill of sections which are too light to be rolled on it economically an increased tonnage of rails and heavy sections could be produced. This would be an important matter if the demand for these increases, and one can now hope with some confidence that this will be the case in the not far distant future.

A further material advantage would be that by dividing the very large range of sections now rolled on the 28″ mill between two mills much better service could be given to structural engineers and others who usually require delivery of numerous different sections of material before progress can be made with the work they have in hand. It is known that this is at present a difficulty with customers who wish to obtain their total requirements from the Tata Company as they complain that while they may get some of the sections promptly they frequently have to wait long periods for others and progress on their works is thereby delayed. Still another advantage would be that rolls for the intermediate mill would be much less expensive than those for the 28″ mill. The cost of a set of these is so high that the Company naturally hesitates to provide them for sections not rolled at present unless orders for large tonnages are assured. A not inconsiderable tonnage of light sections is therefore imported by bridge and wagon builders and others. With the much lower cost which would be involved in a set of rolls for the smaller mill it is thought that in many cases the Company would find it to its advantage to provide the rolls and retain the orders rather than allow them to go abroad. Should an investigation by the Company result in the finding that an 18″ mill would prove suitable it is believed that an efficient mill of this size could be installed for considerably less than the Rs. 30 lakhs provided for a 22″ mill.

Auxiliary equipment.

138. In addition to the main producing departments of the works which have been dealt with above there are of course auxiliary and service departments which it is necessary for the Company to maintain in order to ensure the general efficiency of the works as a whole. For maintaining and where necessary improving these it is proposed to spend Rs. 199 lakhs over the next seven years. The chief items of expenditure are improvements in housing and sanitation in the town—Rs. 30 lakhs, re-equipment of the Power House, on which the whole of the works and those of several subsidiary companies

depend for electric power—Rs. 40 lakhs, provision of a gas holder and extension of gas mains in order to make further use of coke oven gas and thereby reduce the consumption of coal—Rs. 30 lakhs, and the provision of a plant for extracting moisture from the air used as blast for the blast furnaces—Rs. 20 lakhs. The last item is rather in the nature of an experiment which might prove successful under the conditions of temperature and humidity obtaining at Jamshedpur during several months of the year although in cooler and drier climates where plant for this purpose has been tried the economy secured in the furnaces has not been found sufficient to justify its use. With this possible exception the provisions made for the above items appear to be necessary. The balance of the Company's estimate of expenditure over the next seven years is made up of comparatively small sums which are required for the maintenance or improvement of water supply—ore mines—machine shop equipment—calcining kilns—railway wagons and track--scientific instruments—laboratories—weighbridges and the erection of a small foundry for making steel castings for the Company's own use in maintaining its plant. The total of these amounts to Rs. 79 lakhs.

Conclusions.

139. Although mention has been made of several cases in which the equipment of the Tata Company's works falls short of the best attainable efficiency it should not be thought that the works are inefficient as compared with other works abroad of similar age. Doubtless a few works on the Continent and in America which have been entirely planned and built since the war are better equipped but it would probably be difficult to find a works dating back to the pre-war period with which the Tata Company's works does not compare favourably. The steel smelting section of the plant is its weakest point but with this put right and with the proposed improvements in other departments there should be very little which could be criticised seven years hence.

No complaints have reached us as regards the quality of the steel supplied by the Tata Company, whether made by the Duplex or open hearth process. All the information we have obtained indicates that the railways, the engineering works and others using the Company's products find them satisfactory and fully up to the standard they require.

CHAPTER VIII.

The Town Department and Welfare of Labour.

140. What we may call the Municipal activities of the Company and the amenities provided in the town and the works for employees and other townspeople have been criticised from two opposite points of view, (*a*) that too little is being done for labour, (*b*) that too much is being done at the expense of the consumer of the products of the industry. We propose, therefore, in this Chapter to set out a description of the main activities and thereafter to consider the extent to which the cost thereof can justly be debited to the steel works.

PART I.—DESCRIPTION OF MAIN ACTIVITIES.

Housing.

141. In 1918, the Company decided to remedy the existing deficiency of housing accommodation and a regular town planning scheme was prepared. In laying out the housing for the poorer classes, it was decided to prevent overcrowding by limiting the incidence of population to 12 families an acre. The scheme allowed for the accommodation of 70,000 persons providing at the same time open spaces and play grounds. The Company in order to give inducement to employees to construct their own houses, agreed to advance loans up to a total of Rs. 50,000 (a figure later increased to Rs. 75,000). Those who wished to erect houses were allowed an advance equal to three months' pay, repayable within a maximum period of 18 months with interest at 3 per cent. per annum. To those who wished to construct pucca or kutcha pucca brick-in-mud buildings, the Company agreed to give loans on mortgage up to a maximum of two-thirds of the value of the building, repayment of the loan to be made within a maximum period of five years with interest at 3 per cent. per annum. Unfortunately the acute financial depression of the years following 1922 obliged the Company to suspend its building programme. The Board reported in 1926 that the housing position was not satisfactory. Since the close of the year 1928 the Company has allotted a sum of Rs. 38 lakhs for town capital expenditure, earmarking Rs. 21 lakhs for housing. This scheme provided for 730 houses and the programme with certain modifications was practically completed by April 1932. From the Company's statement submitted to us we find that at the end of March, 1933, the number of houses available in Jamshedpur was 13,200 whereas the number of employees on the Company's pay roll was nearly 24,000.* About 40 per cent. of these houses were built and are owned by the Company and the balance by the employees,

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* This figure is considerably larger than the average attendance within the works which has been used in other calculations.

in almost all cases with assistance from the Company. In 1926 the percentage of employees for whom accommodation was provided was only 34, whereas at the end of 1933 the percentage rose to 56. In its programme of capital expenditure expected to be incurred during the next seven years, the Company has provided under the heading "Housing, Sanitation, Street Lighting, etc., in the Town" Rs. 30 lakhs. We regard this as most desirable expenditure, which even if the return on the capital does not bring in 5 per cent. as the Company expects, will be fully justified. The total capital cost on residential buildings up to 31st March, 1933, was Rs. 1,00,53,588.

Medical Relief.

142. Medical relief which, during the constructional period of the steel works, was confined to a camp hospital with only five beds, is to-day administered on a large scale. As a result of a complete project for an up-to-date hospital designed for 300 beds, the Company in 1923 opened a new hospital to satisfy the growing needs of the town. An additional block was added to this in 1928 and the hospital has been provided with 140 beds. An X-ray department has recently been added. Besides the main hospital, there are 5 dispensaries located in different parts of the town and these seem to be popular. The need for segregation of infectious and contagious cases led in 1923 to the erection of a well equipped infectious diseases hospital with provision for 52 beds. To meet its growing needs the medical staff has been from time to time augmented and according to the figures (1933) supplied to us, besides the Chief Medical Officer, the Deputy Medical Officer and the Resident Medical Officer, there are 20 assistant medical officers, a lady doctor, a dentist, an X-ray operator, matrons and a number of nurses, compounders and other servants. The total capital expenditure on the existing hospital buildings is Rs. 4,35,104. The Company is incurring increasing expenditure on staff, medicines, diet, etc. In 1914-15 the amount was Rs. 19,366; in 1922-23 it rose to Rs. 1,17,353; in 1927-28 the amount spent was Rs. 2,18,960 and last year Rs. 2,62,137. All employees are treated free in the hospital. Outdoor treatment at the hospital and dispensaries was originally entirely free to the public also, but from February, 1932, a small charge is levied on all non-employees for indoor treatment, for medicines prescribed by doctors and visits to their houses. We visited the hospital and some of the dispensaries and found them well-equipped and in good condition.

Indianisation.

143. Since the grant of protection to the Indian steel industry, the Company reports that it has been steadily pursuing a policy of Indianisation. During the period under review the progress in this direction has been satisfactory. In September, 1924, the total number of the covenanted staff was 229; on the 1st of June, 1926, the number was 161, a reduction of 30 per cent. On the 1st of April, 1933, the number of the covenanted staff stood at 70, showing a further reduction of approximately 56 per cent. From the figures avail-

able up to 1st January, 1934, it appears that the number has now been reduced to 64. This reduction has been effected in spite of a continuous increase in the output of steel. In 1924-25 the production was 248,000 tons; last year the figure rose to 427,000 tons. Although the output has nearly doubled, the covenanted staff has been reduced from 229 to 64, a reduction of approximately 72 per cent.

The total yearly expenditure on covenanted labour taking into account wages, overtime allowance, leave pay, bonus, contingent charges, etc., amounted to Rs. 32,90,000 in 1927-28. Since then year after year there has been a substantial reduction bringing down the figure to Rs. 16,17,000 in 1932-33, a reduction of over 56 per cent. If the cost per ton of saleable steel be taken as the basis for calculation, whereas in 1927-28 the cost of covenanted employees was Rs. 7·6 per ton, in 1932-33 it came down to Rs. 3·7. On the 1st January, 1934, no covenanted employees were employed in any of the following departments: Prospecting, Order, Electrical Engineering, Pattern Shop, Sales and Technical Institute. For many years no covenanted men have been employed in the Accounts and Purchasing Departments. The open hearth department is under the control of an Indian Superintendent, although three covenanted employees are still attached to it; and the Rolling Mills with the exception of the sheet mills are now entirely staffed by Indians under an Indian Superintendent. We have been informed that in no case has efficiency been sacrificed and that wherever Indianisation has been effected, it has always been done with the advice and support of the General Manager, and not only has efficiency been maintained but real economy has also been effected. In the producing departments put under the direct charge of Indians the output has continued to increase. In the near future the whole plant will be Indianised with the possible exception of a very few posts requiring special qualifications.

Technical Institute.

144. The progress in the Indianisation of its staff which the Company has been able to effect is largely due to the system of technical education which it has organized. By the end of 1932 the total number of admissions into the Technical Institute had reached nearly 250, of whom 104 had passed out successfully and had obtained employment with the Company. In order to promote the efficiency of the Technical Institute in the year 1931 the Company constituted a Committee under the Chairmanship of Sir M. Visveswarayya and as a result of the recommendations of that Committee a revised system has been introduced under which "steps have been taken to recruit highly qualified candidates" and "much greater attention is being paid to the practical training of the recruits under the supervision of suitable officers belonging to the various Departments of the Works". Under the revised scheme now in operation, the students must be graduates either in science or in engineering of a recognised Indian or foreign University or College. A small number of admissions is made every year according to the requirements of the

works. The men are divided into two classes—" A " and " B ". The " A " class men are recruited from honours students of Indian and foreign Universities and they are being trained with a view ultimately to filling positions as Superintendents or Assistant Superintendents of the various production departments. The " B " class men are ordinary graduates and it is expected that out of them will be recruited suitable men to fill the positions of Foremen or Assistant Foremen. In the case of " A " class men, no stipend is given in the first year of their training but Rs. 75 a month is given during the second year. Graduates with foreign experience may be paid Rs. 200 per month during each of the two years' training. The Company states that it is its intention to employ successful candidates in the plant on salaries ranging from Rs. 250 to Rs. 400 per month according to individual men and the posts available. In the case of " B " class apprentices no stipend is given in the first year but Rs. 50 a month will be allowed during the second year and on successful completion of their course, they are open to appointment on an initial salary of Rs. 100 a month. " C " class apprentices drawn generally from youths between the ages of 15 and 17 residing at Tatanagar, whose parents or guardians are employees of the Company, are subjected to a five years course. The attention of the Board has been drawn to the fact that " A " " B " and " C " classes are not meant to be watertight compartments and there is no bar to a deserving " C " or " B " class man rising to the higher offices in the Company.

Since the establishment of the Institute the Steel Company has borne 73 per cent. of the total capital expenditure of Rs. 2,48,000 together with 51 per cent. of the total recurring expenditure of Rs. 10,53,000 from the commencement in 1921 to March, 1932. The balance has been met by Provincial Governments and the Ratan Tata Trust. During the year 1932-33 the Steel Company bore 93 per cent. of the total recurring expenditure of Rs. 74 lakhs. The Company claims " that the Jamshedpur Technical Institute is the only one of its kind in India. Here the students live and breathe the atmosphere of the work for which they are to be trained. They receive not only theoretical training but also practical experience by actually coming in contact with men, machinery and materials ". There are now 127 past students employed in the works, 104 under contracts and 23 without. One of them has already been placed in charge of an important department and several others hold responsible positions. Some of the production departments such as the open hearth and most of the rolling mills are at present manned largely by technical graduates who have successfully replaced foreign experts. In addition to giving training in the Jamshedpur Technical Institute, the Company has a scheme by which a limited number of *ex*-students of the Institute are sent abroad to obtain further experience in other steel works. We are told that up to the present 7 men have been sent in accordance with the scheme, 6 to the United Kingdom and 1 to Germany.

These men are expected to spend about a year in studying operations in the works to which they are admitted.

The Apprentice School.

145. The " C " class apprentices to whom reference has already been made will constitute the main body of the students of the Apprentice School established in January, 1932. Boys between the ages of 15 and 18 years who have passed the Middle English or a higher standard are admitted. In the recruitment to the school special consideration is given to the sons of the Company's employees. The number of admissions was 50 in each of the two years 1932 and 1933, but it is stated that the number has since been increased to 75 and the Company hopes to raise it to 100. There is keen competition for admission into the school and parents are anxious to see that their boys obtain the necessary qualification for admission to the Apprentice School.

The course of training in the Apprentice School comprises general education, elementary science and mathematics and those branches of technology required in the works. The course covers five years during the first four of which the apprentices spend four days a week in the shops of the Company obtaining manual skill and practical experience and two days a week attending time classes. During the fifth year the apprentices spend the whole of their time in the works. The works' training of the apprentices is closely supervised during the whole of the period by a full time member of the staff of the Superintendent of Training. The apprentices are paid at the rates of annas 10, annas 12, Re. 1, Rs. 1-6-0 and Rs. 1-12-0 per day in the successive years of their course. The whole cost of this is borne by the Steel Company.

This apprentice scheme, if successfully worked, will tend to reduce the gulf that often exists between the labourer and the overseer in many industrial establishments. In their report (page 29) the Royal Commission on Labour observed—" It has been customary to fill the ranks above the jobber in various ways, all of which involve the importation of men from outside and India presents in this respect a contrast to nearly all industrial countries. In other countries the constant selection and promotion of men from the ranks maintains the vigour of industry. As a rule the successful supervisor should know the workman's task, not by observation but through intimate experience as a workman. There must be that deeper, almost psychological, knowledge that evades definition, but which is born of sharing the mentality and the life of the operative. The deep cleavage between the ranks and the supervisory grades in Indian industry is a constant source of weakness ". When the " C " class apprentices begin to qualify in sufficient numbers, they may be expected not only to remove the cleavage referred to by the Royal Commission but also to contribute to " a new stable element in the labour force at the Steel Works which by virtue of its general and technical qualifications will have the incentive of promotion to higher grades and will consequently rise to a higher level than the present type of men who have little ambition and no goal to look forward to owing to their lack of education ".

General Education.

146. The facilities provided by the Company for the education of the children of its employees may now be referred to. Starting with a small school opened as early as 1915 the Company to-day has under its management a High School, two Middle English Schools for boys and one Middle English School for girls. There are also 32 primary schools in the town including one for girls. 17 out of the total of 32 primary schools are managed by the Company and in all these education is free. The other primary schools, though managed by the residents, receive help from the Company in the shape of grants-in-aid. A Schools Committee nominated by the Company administers all the institutions in the town. The schools are housed in suitable buildings which have been improved by electrification and the provision of fenced playgrounds. According to the figures supplied to us the capital cost of the schools up to 31st March, 1933, was Rs. 3,03,371. The recurring expenditure on the schools in 1915-16 was only Rs. 4,795; in 1923-24, the first year of protection, it was Rs. 78,710, in 1926-27 the beginning of the second period of protection, it was Rs. 80,748 and in 1933-34 the amount has gone up to Rs. 1,34,897. The growth in the number of children attending these schools has been very rapid and has exceeded the estimate of the educational expert who at one time estimated the number of school-going children as likely to be between 2,000 and 3,000. There are now about 5,041 children (boys and girls) receiving instruction. The total number of schools is 42, and the number of teachers employed 209. Special mention may be made of the six night schools where general education is being imparted to adult employees of the Company who cannot attend day schools.

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Welfare Activities.

147. The welfare activities of the Company have thrown on it responsibilities in some respects different from those of other industrial concerns. The Company has recognised its obligations to labour and the economic advantages to be derived from a contented and healthy population. In 1929 a Welfare Department was organised and placed under a special officer. In January, 1929, a scheme was introduced for granting maternity benefit to women workers.

Maternity Benefit.

Under this scheme the equivalent of six weeks wages is paid to a woman worker on her confinement, provided she has been in the continuous employment of the Company for not less than 12 months prior to the date of her confinement and provided also she gives an undertaking not to take up any work outside her own home during the period of six weeks of confinement. A women's rest house with a matron and two assistants has been established at the coke ovens where women employees can have their food and wash and change their clothes. We are told that on an average about 14,000 use this rest house each month. Some women while on duty leave their children in the rest house in charge of the matron. Cradles have been provided for their use and on an average 14 babies are taken care of daily.

First Aid.

Besides First Aid stations, First Aid boxes have been provided together with emergency stretchers in every department, and attempts are made by notices and other propaganda to inculcate safety first principles. Books of safety rules required for the various departments are distributed among the workers. Free training in First Aid is given to selected workers from each department. The Company supplies free ice and soda water to all workers inside the works and full advantage is taken of this facility. Workers who have to spend their time in the vicinity of furnaces and hot metal are given a free supply of boots. To enable the workers to obtain good food at cost price, eight hotels have been established within the works.

Co-operative Societies.

There are at present 25 Co-operative Credit Societies in Jamshedpur. Their total share capital is Rs. 4,81,107. Instalments of loans given by the Societies to their members are recovered through the Company from the men's salary. A scheme for the formation of a Co-operative Central Bank is under consideration.

Provident Fund.

In 1920 the Company brought into existence a Provident Fund. The number of members is 15,611, comprising uncovenated employees drawing Rs. 15 a month and over or an equivalent daily rate. A member of the Fund may contribute either 1/12th or 1/24th of the wages actually received by him during the year and this is deducted from his salary every month. The Company contributes a sum equal to the amount contributed by the employee. The whole of the sum is placed to the credit of the employee and bears interest at 6 per cent. per annum. In 1927-28 the Company contributed Rs. 6·2 lakhs to the Fund, in 1930-31 Rs. 9·2 lakhs and last year (1932-33) Rs. 9·6 lakhs.

Workmen's Compensation.

The Company claims that it gives compensation for injuries received in the works on a more generous scale than provided for in the Workmen's Compensation Act. For temporary disablements incapacitating employees for ten days and under nothing is payable under the Act. Where disablements extend for more than ten days the Act requires only half monthly payments of Rs. 15 or of a sum equal to one-quarter of the employee's monthly wages, whichever is less. The Steel Company however pays in cases of temporary disablements of whatever duration at the full rate of the employee's salary from the date of injury until he is declared fit to go back to work again or until he is declared to have suffered some permanent loss of earning capacity, in which case disability compensation according to the Act is paid to him. The total amount paid by the Company for fatal cases, permanent disablement, temporary disablement in the year ending March, 1933 was Rs. 55,108 whereas the actual amount payable under the Workmen's Compensation Act was only Rs. 30,021.

Cost and Summary.

148. The following are the figures of expenditure on welfare activities inside the works:—

TABLE XXXI.

	Approximate expenditure for the year 1931-32.
	Rs.
Safety First and First Aid	9,429
Free ice and soda supply	1,26,899
Women's rest house	1,000
Maternity benefit	4,667
Picnics	2.607
Supply of boots, etc.	41,074
Total .	1,85,676

The total is a comparatively small item in the wages bill of the Company and has no effect on the rate of wages paid. We believe those rates are reasonable and the leave rules liberal. In its 1926 report, the Tariff Board observed "The Company's policy in regard to such matters as the welfare of the labour force should be in accordance with the best modern industrial practice and the progressive development of the industry should be accompanied by increasing employment of Indians on the superior staff". We are satisfied that the progress of Indianisation has been satisfactory. Our inspection of both the works and the town of Jamshedpur has convinced us that the arrangements made by the Company for the welfare of labour are adequate. In the opinion of some too much attention and too much expenditure have been devoted to labour welfare, but we are definitely of opinion that the attention and expenditure bestowed on these activities are well repaid.

PART II.—EXAMINATION OF TOWN EXPENDITURE.

The Town Expenditure.

149. The propriety of including in the works costs the expenditure on the Town has been questioned. We have here expenditure of a type incurred on a scale which is uncommon in industries in more developed industrial countries. In the first place, it must be pointed out that the figures involved are probably smaller than is generally realised. The nett expenditure on the Town, *i.e.*, gross expenditure less revenue, amounts to a little over Rs. 4 lakhs. This takes no account of interest and depreciation on capital expenditure. The total expenditure on the town up to date has been about Rs. 250 lakhs and the proportionate reduction on capital value which we have effected in paragraph 71 has brought the figure to Rs. 149 lakhs. This possibly under-estimates the value of the town, but since some of the expenditure therein includes the cost

of roads and water supply to the works proper, the figure may be taken as reasonably accurate. Interest and depreciation may be assessed at 10 per cent. the rate of depreciation being naturally much lower than of the works proper. The annual charges on the town therefore amount to some Rs. 18 lakhs in all, equivalent to Rs. 3 per ton on an output of 600,000 tons.

Objections raised to this expenditure.

150. There are two main lines of attack on these charges made in the evidence given to us. Firstly, that the provision of amenities to the employees is on an extravagant scale. Secondly, that a considerable number of non-employees share in the amenities of the town without contributing to the cost. Expenditure on most of what we may call the 'welfare' work proper is not included in the town budget, but goes straight into the works costs. This we have already dealt with in Part I of this Chapter. Expenditure on "Public Recreation" outside of the works amounts to the negligible sum of Rs. 25,000 per annum.

Bulk of expenditure rightly part of works costs.

151. We have examined the expenditure on the town in great detail, and have no hesitation in recording our conclusion that the great bulk of the expenditure is a legitimate burden on the works costs. The position of Jamshedpur was forced upon the Company by the situation of the raw materials of the industry. None of the ordinary comforts of civilization existed; if labour was to be retained, and the industry carried on, roads had to be built, houses put up, light and water supplied, and provision made for sanitation and medical relief. All this capital expenditure was part of the cost of establishing the industry, and must be recovered from the price of the product. Every industry that has had to establish itself far from any big centre of population has had to incur similar expenditure. We have no reason to suppose that it has been on a more extravagant scale in Jamshedpur than in comparable circumstances elsewhere. Nor must it be forgotten that the industry has no local rates to pay. We have no means of making any comparison, but it is clear that the contribution of the Company to an established Municipality could not be less than would cover the entire cost of the supply of the usual amenities of a township to the whole number of its employees, whether the contribution was made directly by the Company, or in the form of rates paid from the wages of the employees.

Proposal to separate Town expenditure examined.

152. It has been suggested that the Company ought to run the township as a separate enterprise and thus free the costs of producing steel from the municipal charges, and lessen the burden of protection. This again ignores the fact that Jamshedpur is a proprietary town of which the Company is the sole landlord. There is no possible means of raising revenue except from the employees of the Company, that is to say from the Company itself. It is the product of the industry which must ultimately pay for the costs of the township, and there would be no

financial advantage to the Company in separating the town from its other activities. Administratively there may be some advantage to be gained in the establishment of an independent local authority. That problem lies beyond the purview of our terms of reference. We have been informed that it has long been under the consideration of the local Government; and that there is no prospect of any change in the present system until the financial position of the province improves.

Summary.

153. It will be seen that the bulk of the charges is due to the capital cost. Little or none of this in our opinion could legitimately have been avoided: and it has properly been included in the block capital of the Company. The administrative charges amount to Rs. 15 lakhs a year, of which nearly Rs. 11 lakhs is recovered as revenue. Employees pay rent for their house accommodation and for their electric light. Other amenities are free. The rent is calculated at 7 per cent. of the capital cost, and the actual realizations amount to a gross return of 5·2 per cent. on the capital. Out of this the cost of repairs and maintenance has to be met, leaving 3·9 per cent. available to meet the interest and depreciation on the capital value. To this extent the benefit may be considered to be an addition to the wages of labour. Further recoveries, the Company holds, would involve an addition to the money wages. We should be reluctant to make any suggestions which would involve any diminution of the real wages of labour. The Company claims to be a model employer, and we do not find that it has exceeded the standards which have been followed by up to date employers throughout the world and have been recommended by the Labour Commission, even if in some minor instances the Company has gone beyond the minimum recommendations of that Commission.

Non-employees.

154. The growth of the industry has attracted to the town a considerable population which is only indirectly dependent on the industry and the free enjoyment by this population of amenities which may be said to be in a sense a burden on protection has been the subject of unfavourable comment. Out of a total population in the Township Area (including the Associated Companies) of 84,000 the population of non-employees is estimated at 17,000, of which 14,000 are within the Company's boundary. It is difficult to allocate with any approach to accuracy the additional capital expenditure which may have been incurred on account of these people. For such buildings as they occupy full rent is recovered. For electric light they pay full charges. Of the capital expenditure on roads, water supply, and drainage the Company estimates that at most some 2½ lakhs may be attributed to them. The charges on this sum would amount to about Rs. 23,000. The cost of municipal services which may be directly allocated to non-employees is put at Rs. 1,41,000. This includes medical relief. Against this is to be set the revenue of Rs. 1,55,000 obtained from land rent and the markets, which is entirely paid by the non-employees. It is clear that the non-employee population imposes no appreciable

burden on the finances of the Company. The criticism then resolves itself into this that the outsiders share in the municipal amenities provided for the employees of the Company without paying an adequate municipal rate. It is possibly true that if a regular municipality were established, they would have to pay increased municipal taxes: but at present we are faced with the anomaly that the Company is actually performing the functions of an administrative body without possessing any of the compulsory powers which local Government bodies usually possess. We have already referred to this. We may rest content with the assurance that no addition to the protective duties has been caused by this side of the municipal activities of the Company.

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PART II.

CHAPTERS IX TO XI.

Subsidiary Steel Industries.

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CHAPTER IX.

Fabricated Steel.

Compensatory and substantive protection.

155. The protective duty on fabricated steel consists of two parts —one for compensating the engineering industry for the increase in the cost of materials resulting from the protective duties on rolled steel and the other intended definitely to foster the growth of the manufacture of fabricated steel. The former is intended to restore tariff equality to the industry and the latter to afford a measure of substantive protection. In deciding whether and if so to what extent, protection should be continued to the fabricated steel industry, we propose to examine the question in both these aspects.

Compensatory protection estimated.

156. The compensatory protection required for fabricated steel is measured with reference to the protective duties proposed on rolled steel. No compensatory protection will be required in respect of British steel since under our proposals no protective duties are recommended on British structural sections and plates. Taking bridgework as typical of fabricated steel we may assume that structural sections and plates are used in equal proportions. On this basis the compensatory duty required on fabricated steel imported from countries other than the United Kingdom will be as follows:—

	Duty Rs.
Structural sections, ½ ton	21·5
Plates, ½ ton	12·5
	34·0

Including wastage, the duty required per ton of fabricated steel is approximately Rs. 40.

Substantive protection unnecessary.

157. Both in 1924 and in 1926 the Tariff Board recommended a protective duty on fabricated steel which included an element of substantive protection. This was done on the ground, as the Tariff Board put it in 1924, that "the encouragement of engineering work in India provides an indirect, but immediate, stimulus to the production of raw steel, and, since economical production depends on a high output, tends eventually to lower the cost of production." In the present circumstances of the fabricated steel industry in India, it is not merely unnecessary but may be harmful to the industry to stimulate any further development in the sense of attracting fresh capital into it. The lack of orders for fabricated steel in recent years has resulted in the total capacity of the fabricating industry in India being in excess of the work available in the country. We estimate that the total fabricating capacity

in the country is probably well over 150,000 tons a year while the average consumption in 1931-32 and 1932-33 was approximately 70,000 tons. Even taking the peak consumption during the past 7 years, the capacity shows a substantial excess over the country's requirements. These figures include fabricated steel of all classes. If high class fabrication only is considered such as railway bridges, public buildings, etc., the maximum capacity probably exceeds 70,000 tons while the average consumption has been considerably less. The extent to which the Indian industry now meets the requirements of the country may be gauged by the following figures of imports of fabricated steel (excluding those on Government account)—

	Tons.
1930-31	14,254
1931-32	4,775
1932-33	1,452

These form a very small proportion of the total Indian consumption in these years. From statements supplied to us by the Chief Controller of Stores we find that the total value of fabricated steel ordered by him on Government account since 1925-26, excluding that fabricated in India from Indian steel, was only Rs. 12 lakhs. Assuming an average value of Rs. 250 per ton of fabricated steel, the total quantity ordered for the whole period was less than 5,000 tons. Of this not less than half, however, was fabricated in India from imported steel. In these circumstances it is obviously unnecessary to afford any assistance for the further development of the industry. On the other hand, such development by intensifying the uneconomical competition which already prevails in the industry, may render its position worse.

Necessity for developing market for fabricated steel.

158. The total consumption of structural steel in India has fallen since 1929 by over 50 per cent. and engineering works in India are therefore operating at between a half and a third of their total capacity. The cost of conversion has been considerably increased in consequence. It is impossible to remedy this by the imposition of protective duties although as we point out later such duties are necessary to prevent further deterioration in the position of the industry. Imports form at present so small a proportion of the Indian consumption that the extent to which the market for fabricated steel can be increased by means of protective duties is negligible. The real need of the industry is that the market should be extended so that the output may be increased and thereby costs reduced. In the present conditions of the market it is obvious that this cannot be achieved by the grant of protection. Meanwhile our proposals regarding the duties on tested materials involve a substantial reduction in prices which will help the engineering industry in reducing its costs. We believe that as far as any adjustment of duties can assist the industry, this is the best method of rendering such assistance apart from that required against unfair competition.

Need for a programme of capital works.

159. We attach great importance, from the point of view of developing the steel industry, to the adoption of suitable measures calculated to increase the market for fabricated steel. No other form of protection can have the influence on this development that would be exercised by a definite scheme spread over a period of years for capital replacements and construction of railways and other productive public works. The credit of the Government of India in the capital market is exceptionally high and money is both plentiful and cheap. A bold policy of public loans for capital expenditure would at this juncture afford enormous assistance in stimulating the market for capital goods like structural steel. We believe that the effect of such a policy would not be confined to the steel industry but would be felt in every aspect of the country's economic life.

Importance of re-organising engineering industry.

160. The present position of the engineering industry in India with a total capacity much in excess of the country's requirements and consisting of over forty different units competing for work of every description is one which requires radical re-organisation if the industry as a whole is to survive. The total capacity of the industry has practically continued unchanged since the period of the war and is largely based on the artificially swollen market created by war requirements. A substantial writing down of capital and curtailment of the capacity of the industry by the weeding out of obsolete and inefficient plant is the first essential condition of success. A second condition, equally essential, is the introduction of a greater degree of specialisation into the organisation of the industry so that units or groups of units may be organised for production on a basis of increased standardisation. The engineering industry has made rapid strides in recent years in the standardisation of its processes but the benefits of this will not be fully realised in India until the industry is better organised. What can be achieved by specialised production in the direction of reducing costs is illustrated by the progress made in wagon building at the Indian Standard Wagon Company's works at Asansol and in bridge building at Messrs. Braithwaite and Company's works in Calcutta and Bombay.

Government assistance in re-organising industry.

161. The re-organisation of the engineering industry on these lines must ultimately come about as the result of action by the industry itself. We are aware that in the re-organisation of an old established industry serious difficulties due to vested interests may hamper progress. In this respect Government can render a great deal of assistance to the industry. We have suggested that a definite programme of capital works involving the use of structural steel should be adopted by Government for a period of years. The institution of such a scheme as well as the distribution of orders under it should be made conditional on the structural industry taking steps to re-organise itself so that the scheme may be executed as economically as possible. Since rail-

ways and public bodies constitute the largest purchasers of fabricated steel in India, the incentive necessary for the re-organisation of the industry can be applied by Government more effectively than in many other industries. The Chief Controller of Stores through whom Government purchases are made would be the most suitable authority for guiding and assisting the industry in the task of re-organisation. Manufacturers of fabricated steel have uniformly borne witness to the assistance rendered by the Indian Stores Department in raising the standard of quality and efficiency in Indian fabricating shops. The prestige which the Department commands among manufacturers throughout the country must be fully utilised in facilitating the task of reconstruction.

Estimate of Indian fair-selling price.

162. While we think that no case has been made out for granting protection for the purpose of stimulating further expansion of the industry, the question of affording assistance against importations at uneconomically low prices so that the existing market for the industry may be preserved is one which requires careful consideration. A great deal of evidence has been received by us on this question which has attracted considerable public attention. Most of the evidence is based on the tenders received in the early part of 1933 in connection with the construction of the Nerbudda Bridge by the Bombay, Baroda and Central India Railway. Among the tenders received was one from Messrs. Dorman, Long and Company in England. On the figures given in this tender, the price quoted for fabricated steel work including fittings amounted to Rs. 206 per ton f.o.r. Bombay duty paid or approximately Rs. 170 without duty. Taking the lowest costs we have received from fabricating companies in India, and allowing for further reductions which we consider possible we estimate the average future fair-selling price of high class bridgework for the Indian industry over a period of 7 years at Rs. 210 per ton against Rs. 248 assumed in 1926. This estimate is based on the following assumptions:—

(i) That structural sections and plates are used in equal proportions.

(ii) That ⅞ths of the steel required are obtained in India at the fair selling prices f.o.r. port estimated by us for the Indian industry (Structurals Rs. 111. Plates Rs. 110) and the rest imported from the United Kingdom at the landed prices assumed by us for British steel without any revenue duty (Structurals Rs. 113, Plates Rs. 114).

(iii) That the cost of fittings and wastage of structural steel amounts to Rs. 19 per ton.

(iv) That the cost of conversion on a normal output is Rs. 65 per ton.

(v) That assuming the existence of fabricating shops in both Calcutta and Bombay the average freight disadvantage to the Indian industry may be regarded as negligible, the disadvantage on rolled steel having been already allowed for in the duties proposed for Tata's products.

(vi) That depreciation and profit amount to Rs. 15 per ton on a normal output.

On these figures the amount of duty required per ton is Rs. 40.

Evidence supporting Board's estimate.

163. Messrs. Dorman, Long and Company have supplied us with an estimate of the fair selling prices for first class bridgework based on their experience in their Calcutta Works. The following are the figures:

TABLE XXXII.

	Per ton. Rs.
I. First class girder and truss spans—	
(a) If produced to capacity	232
(b) On restricted production	272
II. Plates—beam spans—	
(a) If produced to capacity	190·5
(b) On restricted production	217·1
III. Beam spans—	
(a) If produced to capacity	168·5
(b) On restricted production	188·5

The average of the above figures may be taken roughly as the fair selling price of first class bridgework on a normal output. This works out at Rs. 211·4 per ton against Rs. 210 estimated by us. The cost of material, for facility of calculation, is taken in Messrs. Dorman, Long and Company's estimate at Rs. 100 per ton against a sum of approximately Rs. 111 assumed by us. It is clear from these figures that the fair selling price estimated by us is not excessive.

Unfair competition by British integrated concerns.

164. The Indian Engineering Companies who appeared before us have proposed that the duty applicable to fabricated steel in the next scheme of protection should be based on Messrs. Dorman, Long and Company's quotation for the Nerbudda bridge. They contend that such prices are the result of the integrated character of the exporting Company's works which comprise both rolling mills and fabricating shops. This, it is stated, enables the Company to pass plain material from their rolling mills into the fabricating shops at prices which exclude certain legitimate charges. From such analysis as we have been able to make of the prices quoted by Messrs. Dorman, Long and Company, we are satisfied that they are uneconomical prices and that competition based on such prices is clearly unfair competition. It is true that the successful tender in the case was that of an Indian Company but that does not alter the position that the competition which Indian Companies using Indian material had to face was unfair

competition. The result of such competition is not always that Indian manufacturers lose orders but that they are compelled to quote in anticipation of it prices which either put them to loss or enable them to cover only out of pocket expenses. It further necessitates the supply of plain material by the Indian rolled steel industry at considerably less than the fair selling price in order to retain the market and thereby maintain output. In view of the fact that the British steel industry enjoys differential duties under the Indian Steel Protection Act, competition on the part of a leading British Steel Company at prices calculated so seriously to disturb the scheme of protection is to be regretted.

Proposal of National Federation.

165. When the representatives of the National Federation of Iron and Steel Manufacturers, of which Messrs. Dorman, Long and Company are members, appeared to give evidence before us, we took the opportunity of discussing this question with them so that if possible a satisfactory settlement by agreement might be arrived at. In response to this suggestion, Mr. Elliot on behalf of the National Federation has reported to us as follows:—

> "It is clear to the Federation that the British Steel Makers have, although without any such deliberate intention, contributed to the difficulties of the structural engineering industry in India through their export refund arrangements, designed for the assistance of the British Structural Engineers. . . . The original intention of the refunds, so far as the Indian market is concerned, was to bring the home price of British steel supplied to the British structural yards down to the current export price for India, and with this object, for a long time, no refunds were granted in excess of 10 shillings per ton representing approximately the difference between the home price and the export price for rolled steel for India. Owing to shortage of work in the British structural yards and under pressure from the British structural engineers, these refunds were increased, notably in the case of the Nerbudda Bridge to a figure of 30 shillings per ton. . . On behalf of the British Steel Makers I am now authorised to inform the Board that, subject to the continuance of differential duties on fabricated steel at such a level in the case of countries other than the United Kingdom as may reasonably be expected to eliminate their competition, the British industry undertakes not to grant refunds for fabricated steel work exported to India, beyond what is necessary to bridge the gap between the home price current at the time and the established export price for plain material for India."

Duties proposed.

166. This undertaking, however, hardly meets the case. The reduction in the refund on exports can effect only prices quoted by non-integrated concerns, that is, fabricating shops working independently of rolling mills. Judging by the prices quoted for the Nerbudda bridge by British concerns of this type, we think that the Indian industry has little

reason to fear competition from them. The lowest price quoted by them was Rs. 36 per ton higher than Messrs. Dorman, Long's. The latter having their own rolling mills are in a position to charge for their plain material whatever prices they consider suitable in each case irrespective of any alterations in the rates of export refunds. So long as the National Federation is unable to control the operations of these integrated works, the threat of competition from them at uneconomical prices must be regarded as a permanent danger to the Indian industry, disturbing the scheme of protection and depressing prices both in the fabricating and in the rolling industry. We consider therefore that the protection for the Indian industry should be fixed at the difference between the fair selling price estimated by us and the lowest British quotation for the Nerbudda contract. This amounts to Rs. 40 per ton which is also the measure of compensatory protection required against Continental steel. We propose that a duty of Rs. 40 per ton should be levied on fabricated steel irrespective of the country of origin. The duty on fabricated steel imported from the United Kingdom is intended to protect the Indian industry against unfair competition and not as a measure of substantive protection. Its duration will therefore be temporary and restricted to the period during which such competition prevails. We still believe that the matter is one which admits of settlement by agreement. If as a result of further steps in that direction it is found that the grounds which now exist for apprehending unfair competition from the United Kingdom have disappeared, it will be open to Government to reduce the duty to the revenue level.

Steel fabricated in India from imported material.

167. Indian manufacturers have also complained against competition from fabricated material produced in India out of imported rolled steel which, it is alleged, is passed into the fabricating shop at less than economical prices. It is admitted that the amount of material involved in these cases is small and that the competition arising from this source is relatively unimportant. The question however is one which affects primarily the manufacturers of rolled steel. In view of the allowance we have made for the lag between import prices and realised prices in estimating the duties required on rolled steel and in view also of the small quantities involved, it seems unnecessary to make any special provision on this account.

New Howrah bridge.

168. Reference has frequently been made in this enquiry to the tenders which will shortly be called for by the Calcutta Port Trust in respect of the construction of the new Howrah bridge which has been recently sanctioned. According to information we have received, the total quantity of steel required for the construction of the bridge will be about 25,500 tons, of which approximately 17,000 tons will be high tensile steel and the rest mild steel. From tests carried out at the Tata Iron and Steel Company's works and from a general examination of the question, we are satisfied that high tensile steel suitable for the proposed Howrah bridge can be manufactured in

India at a cost not materially different from ordinary mild steel. In view of the growing importance of high tensile steel in the construction of large bridges and similar heavy structures, a considerable demand for this class of steel may be expected in India. For this reason we make no distinction in our proposals between mild steel and other qualities of steel. From the fabricator's point of view, the construction of the new Howrah bridge presents other difficulties. The construction of a bridge of this magnitude involves the use of special plant for fabrication and erection. Bridgework of such dimensions being of rare occurrence, the margin between the purchase value and residual value of the plant employed will be much larger in the case of Indian fabricators than of foreign manufacturers who cater for a world market. On the assumption that the construction of the bridge will take about 3½ years, we estimate that in the case of Indian manufacturers the depreciation on this part of the plant will be approximately 25 per cent. per annum. In the case of a European fabricator who is in a position to quote for orders in different parts of the world the residual value of the plant will be higher since there is more likelihood of his being able to use the same plant at least partially in the execution of other orders of a similar type. It has been proposed that the difficulty of Indian manufacturers in this respect could be met if a protective duty based on a higher rate of depreciation were levied on fabricated steel. The idea of employing the tariff weapon as a means of securing for Indian manufacturers the order for an individual work of public utility must be dismissed as impracticable. At the same time we consider it a matter of the utmost importance that when a large public undertaking of this description is under consideration, every effort should be made to utilise to the fullest extent the material resources and manufacturing capacity available in India. Two conditions however must be recognised, first, that apart from the duties on fabricated steel, there should be no increase in the cost of the undertaking on account of the order being placed in India except to the extent admitted ordinarily under the purchase rules of Government and secondly, that the standard of quality and workmanship considered essential for the undertaking should be fully maintained.

No protective duty on towers for transmission of electricity.

169. Besides ordinary forms of fabricated steel, Indian Engineering Companies have applied for assistance in respect of several special classes of articles many of which are now classified for tariff purposes as machinery or component parts thereof and liable only to a revenue duty of 10 per cent. The most important of these is steel towers for the transmission of electricity. We have been supplied with detailed figures regarding the prices at which tenders were submitted recently for steel towers required in connection with the Cochin section of the Pykara Hydro-electric scheme. From these figures we find that the British landed price without duty was Rs. 278 per ton

and the Continental Rs. 247. We estimate the fair selling price for the Indian industry as follows:—

TABLE XXXIII.

	Rs.
Structural section per ton	111
Wastage and fittings	19
Conversion	55
Galvanising	60
Average freight disadvantage	12
Capital charges including profit	15
	272

We have allowed Rs. 10 less for conversion than in the case of bridgework on the ground that steel towers involve a larger amount of repetition work. On the other hand we have allowed Rs. 12 for freight disadvantage since the recent demand for steel towers has been largely in areas where Indian materials are at a disadvantage as compared with imports. It will be found that on these figures no protective duty is needed on British steel towers while on Continental towers the duty required is approximately 10 per cent. We find therefore that no increase over the present revenue duty on steel towers is necessary.

Proposals regarding other classes of fabricated steel.

170. Other special classes of fabricated steel for which protection is claimed are (i) pressed steel tanks, (ii) structural parts of cranes and conveying machinery, (iii) barrage gates and canal regulators and (iv) sugar machinery. No information has been supplied to us by applicants regarding the cost of manufacturing these articles in India and we are therefore not in a position to estimate the assistance if any, required by the Indian industry. Pressed steel tanks are already assessed as fabricated steel and will be liable to the protective duty we have proposed. No further measures appear to us to be necessary. The other articles mentioned above are at present assessable at the rate of duty applicable to machinery. In the case of these articles the reductions which we have proposed in the duties on tested steel will provide substantial assistance to the Indian manufacturer. It is by this means that the protection required for machinery and its component parts can best be given. In the manufacture of structural parts of cranes and conveying machinery and of barrage

gates and canal regulators, the Indian manufacturer has considerable natural advantages. These articles require a high degree of accuracy in fabrication and being of slender construction are liable to be easily damaged in sea transit. The buyer would therefore prefer parts to be assembled and tested in makers' works which in the case of imported materials would necessitate additional expenditure on foreign inspecting agencies. We think that with these natural advantages and with the proposed reduction in the duties on tested materials, the position of the Indian manufacturer in respect of these articles is reasonably safeguarded.

Wagons and underframes.

171. No complaint has been made in this enquiry regarding the assistance afforded to Indian manufacturers of wagons and underframes. The practice of the Railway Board regarding the purchase of wagons and underframes is now as follows. The annual demands of individual railways are included in rolling stock programmes which on receipt are subjected to critical examination and subsequent discussion with individual Agents. On approval by the Standing Finance Committee for Railways, the Railway Board issues a combined call for tenders for the requirements of all railways for wagons and underframes of standard types and orders are placed for manufacture in India by Indian rolling stock manufacturers. Individual railways are allowed to make their own arrangements for the supply of their sanctioned requirements of non-standard types but arrangements are made for the construction to be done in India. The present annual requirements of rolling stock amount to approximately 3,000 wagons. The total capacity of Indian manufacturers may be estimated at not less than 8,500 wagons. As it is now the definite policy of the Railway Board to place all orders for wagons and underframes in India up to the total capacity of Indian manufacturers, it is extremely unlikely that any orders will be placed abroad in the near future. We are satisfied also that the prices at which orders have been placed are fair to manufacturers and railways alike.

Manufacture of railway materials.

172. Messrs. Henry Williams India (1931) Limited, manufacturers of railway materials, have applied for protection in respect of various classes of articles produced by them. On the recommendation of the Tariff Board in 1930, the duties on these articles were adjusted so as to place Indian manufacturers in a position of tariff equality. The Company then was not equipped for the manufacture of the steel bars required for making these articles. It has now installed rolling mills in which it proposes to roll bars from billets supplied by the Tata Iron and Steel Company. In estimating the costs of manufacture we have therefore assumed that the Company will itself roll all the bars required by it. The cost of ordinary billet is taken at Rs. 64 per ton delivered at works. It is assumed that, on the average, production during the next seven years will be at full capacity on a single shift.

Proposed duties on railway materials.

173. The duties estimated on this basis are shown in the following table which we recommend may be adopted :—

TABLE XXXIV.

	Commercial bolts and nuts.		Rivets.		Fish-bolts and nuts.		(i) Dog spikes and (ii) gibs, cotters, key and keybars, etc.	
	Rs.	A.	Rs.	A.	Rs.	A.	Rs.	A.
Billet per ton	64	0	64	0	84*	0 (38/40 tensile)	64	0
Plus rolling wastage . . .	70	0	70	0	92	0	70	0
Rolling cost	30	0	30	0	30	0	30	0
	100	0	100	0	122	0	100	0
Manufacturing wastage . .	25	0	25	0	31	0	10	0
Total .	125	0	125	0	153	0	110	0
Making cost	60	0	32	0	35	0	50	0
Commercial charges and profit .	22	0	22	0	22	0	22	0
Fair selling price per ton . .	207	0	179	0	210	0	182	0
Fair selling price per cwt. . .	10	6	9	0	10	8	9	2
British price landed ex-duty per cwt.	13	9	10	2	10	13	8	11
Duty on United Kingdom imports per cwt.	*Nil*		*Nil*		*Nil*		0	7
Continental price landed ex-duty per cwt.	8	13	7	2	6	3	6	3
Duty on non-United Kingdom imports per cwt.	1	9	1	14	4	5	2	15

Application for assistance of enamel factories.

174. On behalf of the enamel factories of Bengal, the Bengal Industries Association have asked that the steel sheets required by them should be exempted from duty on the ground that they experience the greatest difficulty in obtaining sheets lighter than 24 gauge from the Tata Company. Their requirements are sheets of 26, 28 and 30 gauges. The objections to exempting these sheets from duty are first, that there is no inherent difficulty in making these sheets in India if there is a sufficient demand and secondly, that such exemption will lead to considerable evasion of Customs duty. We have proposed a substantial reduction in the duty on untested black sheets. On the information supplied to us, we find that the cost of sheet per square foot of enamelled sign board is about 3 annas. Of this the amount of duty paid is at present 15½ pies. If the duty on untested black sheet is reduced, as proposed by us, from Rs. 73¾ to Rs. 32 per ton, the amount of duty payable per square foot of enamelled sign board will be reduced from 15½ pies to 6¾ pies. A similar reduction will be possible in the cost of other kinds of enamelled ware. We find that, in view of this substantial reduction, no further measures are called for at present.

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* Rs. 20 (30*s.*) is a normal trade extra charged for 36/40 tensile steel.

CHAPTER X.

Tinplate.

Existing protection.

175. The Tinplate Industry of India is protected by a specific duty of Rs. 48 per ton on imported tinplate, imposed under the provisions of the Steel Industry (Protection) Act of 1927, which will expire on October 31, 1934. The specific duty has been increased to Rs. 60 by the surcharge of 25 per cent. levied on all duties since 1931. Our enquiry has been carried out under the instructions published in the Resolution of the Government of India and quoted in paragraph 1 of this report.

Progress of the Industry.

176. We will review very briefly the progress of the industry since the Board last reported. The report of 1926 stated that "the Tinplate industry affords a notable illustration of the industrial progress attainable within a comparatively short period under the policy of discriminating protection". They based this opinion on the great increase in output between 1923 and 1926, and a reduction in works costs (apart from the fall in the price of steel and tin) that showed a very great improvement in practice. We are happy to be able to report that the progress has continued. No industry in our opinion has made better use of its opportunities under the protective scheme.

Output.

177. The Board estimated in 1926 that the works were capable of an output of 36,000 tons. Actually in 1932, including 4,000 tons of galvanised sheets, the production exceeded 46,000 tons: so that the Company can now justifiably assess the capacity of the mill at 45,000 tons of tinplates, the limit of production possible with a supply of 60,000 tons of steel, which is the maximum supply under the existing agreement with the Tata Company. The increase in output has been rendered possible primarily by the use of wider rolls, and by improved efficiency in practice.

Indianization.

178. Over the same period, a noteworthy feature has been the reduction in the number of European supervisors. In 1927, there were still 60 covenanted employees in the various departments. By 1932, they had been reduced to 23, less than 1 per cent. of the total number of employees.

Gauges.

179. The period has also seen a marked improvement in the number and variety of gauges produced, to an extent not considered possible at the time of the enquiry in 1926.

Reduction in costs.

180. In 1926 the total works costs were estimated at Rs. 312 a ton, the cost above nett metal being Rs. 138. The Board anticipated economies which would by 1934 reduce the cost above metal to Rs. 117. In 1932 the total works costs had fallen to Rs. 227 and the cost above metal to Rs. 83. The fall in the price of steel and tin accounted for Rs. 30 in the total reduction. Even if we consider the fall in the price of stores which may account for some Rs. 15 per ton, the reduction in the cost above nett metal from Rs. 138 to Rs. 83 is a most satisfactory achievement, and reflects a much improved practice and general economy of working.

Consumption of steel and tin.

181. The consumption of steel per ton of tinplate which had risen a little before 1926 with the rapid increase in output, has decreased again since then and may now be put at 1⅓ tons. The consumption of tin at 36 lbs. per ton of tinplate is reported to be in accordance with good practice elsewhere, and shows a substantial saving over the 40 lbs. estimated in 1926 as the future consumption. That estimate was based on figures of the year 1924-25. By 1927 the consumption had been reduced to 34½ lbs.; and the increase to 36 lbs. may be ascribed to the greater variety of gauges thereafter undertaken.

Wasters.

182. In the adjustment on account of 'wasters' made in 1926 in the fair selling price the Board made an allowance of Rs. 18 which is Rs. 2 a ton less than a consideration of the percentage of wasters at that time produced would have justified. The practice has since been greatly improved and may now be said to be nearly equal to the Welsh practice, under which about 15 per cent. of wasters are produced in the 30 gauge. Over all gauges the percentage is somewhat higher, and works out at a reduction of Rs. 8 in the average price obtained per ton of output.

Labour cost.

183. The cost of labour per ton of output in 1927 was Rs. 55. In 1932, it was Rs. 46. The average output of labour per head rose from 13·8 in 1927 to 14·2 in 1932. In the intervening years it fell below this figure owing in the first instance to the effects of the strikes at Jamshedpur and Golmuri; and subsequently was affected by short time working owing to the limited demand.

Steel prices.

184. During the period the price of steel remained at Rs. 83 approximately, being affected only by a small quantity imported from Europe during the strike at Jamshedpur. The price of Rs. 83 is that determined by the agreement with the Tata Iron and Steel Company which came into force in January 1927 and is to run for 21 years. Under this agreement the Tata Company supplies a maximum of 60,000 tons per annum of tin bar at a price—

(a) up to December 1936 of Rs. 83 per ton, (*b*) thereafter (or from 1st April, 1934, if the protective duty of Rs. 48 a ton is then reduced) at 33 per cent. of the average f.o.b. South Wales export price of tinplates.

Under the latter mode of calculation the Tinplate Company would have paid Rs. 65 in 1931 and Rs. 68 in 1932, and from Rs. 70 to Rs. 74 in 1933.

Tin.

185. The price of tin which next to steel is the most important item in the costs, fell steadily during 1927 to 1931 from £289 to £118 (London prices). Since that date it has risen rapidly and in February of this year was £227. The reduction in costs due to the fall in price of tin between 1927 and 1932 amounted to nearly Rs. 32 per ton of tinplate.

Consumption.

186. Over the same period while the total annual consumption of tinplate in India fell from about 67,000 tons in 1927-28 to 46,000 tons in 1932-33, the Company's sales are about the same at the end of the period as at the beginning, the statistical curve sagging somewhat in the middle of the period. It may be said therefore that the share of the Indian market supplied by the Company has risen from 61 per cent. to about 89 per cent.

Prices of tinplate.

187. The fair selling price recommended by the Board in 1926 was Rs. 368, with a duty of Rs. 48. This price contemplated, in order to cover overhead charges and manufacturer's profit, a surplus over works costs of Rs. 39·9 per ton of tinplate. The price anticipated was never actually reached. Fortunately for the Company the steady fall in the market prices was accompanied by a fall in the price of stores and materials as well as by greater efficiency of working and the full surplus was obtained in three of the six years. The surcharge on Customs duties imposed in September, 1931, acted as additional protection, and the surplus in 1932 was well above the estimated margin. The gross surplus for the six years together has exceeded the estimated surplus by over 3 lakhs of rupees—

TABLE XXXV.

Year.	Costs.	Realisations.	Surplus.		Difference.	Tonnage.	Results
			Actual.	Estimated.			
	Rs. Per ton.	Rs. Per ton.	Rs. Per ton.	Rs. Per ton. 39·9, say	Rs.		Rs.
1927 .	294	336	42	40	2	×41,552	83,104
1928 .	275	314	39	40	—1	×37,061	—37,061
1929 .	301	318	17	40	—23	×32,892	—756,516
1930 .	257	315	58	40	18	×38,326	689,868
1931 .	233	271	38	40	—2	×37,147	—74,294
1932 .	230	280	50	40	10	×41,834	418,340
Total .	..	..	94·75 lakhs	91·52 lakhs	..	228,812	323,441

The gross surplus thus realised during the 6 years 1927-32 amounts to nearly Rs. 95 lakhs. Rs. 44 lakhs of this sum was set aside as depreciation, Rs. 28 lakhs went in interest on debentures, Rs. 10 lakhs was capital expenditure on plant and the balance has been placed in Reserve. Rs. 55 lakhs of debentures have been repaid during this period and it is clear that the transaction has been financed from the depreciation funds.

The Company's capital.

188. Reference was made in the Legislative Assembly prior to the enquiry of 1926, and in paragraph 197 of the Board's report of 1926 to the proposed intention of writing down the capital of the Company. The Board held that it was outside of their province to come to any decision as to the merits of this matter, since for the purpose of the scheme of protection they had arrived at their own valuation of the property on which they proposed to allow a profit. In order to understand the present financial position of the Company it is desirable to realise exactly what has been done to "write down the capital to a figure more in accordance with what the Company consider to be its present day value". Dating from 1st January, 1927, fresh agreements were entered into with the Tata Iron and Steel Company and the Burma Oil Company providing in the one case for a specified annual supply of tin bar, and in the other for the payment to the Tinplate Company of the full price at port of imported tinplates delivered at any destination. During the years 1927-29 the Company's balance sheet was reconstructed in the following manner. Round figures are taken for the sake of simplicity. Before reconstruction the capital liabilities on account of Shares and Debentures stood at Rs. 200 lakhs (Shares Rs. 75 lakhs, Debentures Rs. 125 lakhs) and the Block at Rs. 165 lakhs. The debenture holders surrendered debentures to the value of Rs. 25 lakhs and accumulated interest of Rs. 37 lakhs and the share capital was reduced from Rs. 75 lakhs to Rs. 32·5 lakhs. This represents a total reduction of Rs. 105 lakhs. This together with the profit of the year 1927 enabled the Company to write off a debt from the Tata Company of Rs. 41 lakhs (as part of the settlement of the sheet bar agreement), accumulated losses amounting to Rs. 35 lakhs and special depreciation of the property together with certain preliminary expenses amounting in all to Rs. 34 lakhs. After reconstruction the Balance Sheet in effect (excluding all other factors) stood thus:—

Liabilities.		*Assets.*	
	Rs.		Rs.
Share capital . . .	32·5	Property	131
Debentures	100·0		

Debentures are being paid off at the rate of Rs. 12 lakhs per annum. At 31st December, 1932, the outstanding debenture loan was Rs. 44½ lakhs and the block value of the property less depreciation stood at nearly Rs. 61 lakhs. The Company will shortly be in the happy position of owning a property free from encumbrances considerably exceeding in value the amount of its share capital. In these circumstances it would seem of doubtful expediency to continue to repay the debentures at the present heavy rate, probably involving postponement of replacements and improvements needed in the works.

Conditions of Labour.

189. A few remarks may be added about working conditions and welfare of labour. The town of Golmuri is held on lease from the Tata Iron and Steel Company and its proximity to Jamshedpur enables the Tinplate Company to share some of the amenities of that town. Conditions are therefore very similar to those applicable to the employees of the Tata Company. The Company contributes to the support of the Jamshedpur hospital and to the cost of the Jamshedpur schools. But it has in addition a small hospital of its own for dealing with urgent cases, and a dispensary and first-aid station where day and night service is maintained open to all comers. The Company also maintains 3 small schools for the children of employees who do not go into Jamshedpur. The education is free.

A filtered water supply is laid on to the works and to the town, for which no charge is made. The working population, *i.e.*, the number of employees, is about 3,000; and the Company has built for their housing 51 bungalows and 418 pucca quarters, in addition to which 823 houses have been built by employees themselves with the aid of loans from the Company. More houses are being built as the demand for them arises: 48 are now under construction. Electric light and drainage are supplied without addition to the rent.

The total capital cost of the Golmuri town is stated to be Rs. 13,70,446, and the nett annual expenditure after deducting rents and other charges recovered was in 1932 Rs. 62,519, the gross expenditure being Rs. 1,25,000. The nett expenditure is included in the works costs.

The Provident Fund which was instituted in 1929 allows every employee to contribute 1/12th of his salary, and the Company contributes a similar amount. More than half of the total number of employees have already joined the Fund.

Future costs.

190. We have now summarised the effect on the industry of the scheme of protection, showing that the industry has more than fulfilled its promise, and can turn to the future. We have referred in paragraph 180 to the remarkable reduction in costs effected since 1926. The Company believes that a point has now been reached when costs will remain stationary or may even go up. It therefore proposes to take the mean of the years 1931 and 1932, Rs. 87·5 and Rs. 82·8, as representing future costs above metal. As a matter of fact the costs in the year 1931 were the lowest on record; and were only swelled by a lower credit for scrap. If we assign the higher credit for scrap to each of these years the costs for 1931 will be Rs. 80·5. 1932 begins to show the effect of higher prices of materials: and we think we are justified in taking that year as a basis for future

calculations. But we should not be quite justified in our opinion in following the method suggested by the Company in its representation which counts on rising costs with falling prices of tinplate. We shall therefore in the first instance assume that both costs and prices in 1932 fairly represent a standard which we can use in determining a fair selling price, and make allowance for such factors as we know must change. These factors are the cost of steel and the cost of the Provident Fund. The price of steel is at present Rs. 83 and after the 31st December, 1936, will under the arrangement with the Tata Company already referred to, drop, it is estimated, to about Rs. 70. Whether our proposals involving a differential duty higher than Rs. 48 on other than British tinplates, will prevent the earlier application of the revised method of fixing the price referred to in paragraph 184, is a matter on which we have received no definite expression of opinion. Pending a final settlement of the question, we assume that a price of Rs. 83 will be charged till the end of 1936. Assuming then an average landed price of Welsh tinplate of Rs. 262 the average price over the period of protection will be Rs. 74. This is equivalent to a reduction of Rs. 12 in the cost of steel per ton of tinplate. The Company estimates that an additional sum (equal to Re. 1 per ton) will be required to meet the increasing cost of the Provident Fund. This will be spread over the period but may be added at once to simplify calculations.

Now the price of tin has risen since 1932 very considerably, and the Company has expressed the fear that while this price may remain high, other factors may operate to depress the price of tinplate. The rise in the price of tin has been fully reflected in 1933 in the price of tinplate, which actually rose in August-September higher than the price of tin would justify, and was followed by a reaction. A rise in tin prices is obviously a factor which affects all manufacturers equally. But it is a fact that in this reaction Welsh prices have now fallen below the level which the increased prices of tin would justify. Tin prices are now (in March) 62 per cent. higher than the average of 1932, when the Welsh price level was Rs. 252. That is to say, the price might now be expected in normal conditions to be about Rs. 272. It is actually Rs. 262, or Rs. 10 less. Part at any rate of this fall is due to the renewed competition of the countries to which we shall presently refer. The differential duty which we shall be compelled to recommend against this competition in India will in our opinion tend to restore Welsh prices. And we therefore think that an allowance of Rs. 6 will be sufficient to cover the risk of the depression of Welsh prices below the level justified by the price of tin.

Reduction of Welsh costs not probable.

191. In spite of the fact that the Welsh makers prior to 1932 did not reduce prices by the full amount of the fall in price of tin and stores, and may to that extent be said (as the Company contends) to have obtained a reserve during the past years, we see no justification in past practice for the fear that Welsh manufacturers

may be able to reduce their costs from any causes which will not equally apply to the Tinplate Company. With a duty of 33⅓ per cent. now in force in the United Kingdom on tin bar there is no prospect of the Welsh works being able to import their material at reduced prices.

Capital charges and overheads.

192. It is now necessary to examine the scale of overhead charges. The Company has not challenged the allowances made by the Board in 1926 on account of depreciation (Rs. 5·31 lakhs), interest on working capital (Rs. 2·25 lakhs) and manufacturer's profit (Rs. 6·80 lakhs), Rs. 14,36,000 in all, and asks for their continuance. In practice the Company has set aside a sum for depreciation larger than that included in the allowance, *viz.*, an average of Rs. 7·45 lakhs instead of the Rs. 5·31 lakhs allowed by the Board. The calculation is based on a capital valuation of Rs. 130 lakhs instead of Rs. 85 lakhs. The Board (in paragraph 195 of the 1926 Report) for the purpose of arriving at a proper assessment for protective purposes, reduced the book value of the capital outlay to Rs. 85 lakhs. The method was necessarily somewhat arbitrary, and for the reasons which we gave when considering the Tata Works' valuation, possibly undervalued the property. It has not been challenged however and we do not propose to re-open it. We agree to add to the valuation then made the additional plant added to the works during the period, amounting to nearly Rs. 10 lakhs; so that the revised valuation may be put at Rs. 95 lakhs. The interest on working capital previously allowed was Rs. 2·25 lakhs, being 7½ per cent. on Rs. 30 lakhs. We reduce this to 6 per cent. on Rs. 24 lakhs, which is to-day the works cost of 3 months output, and arrive at Rs. 1·44 lakhs. We agree to take 8 per cent. as a fair all round rate of manufacturer's profit, as in the case of the Tata Company. Calculated on our valuation of the property, *viz.*, Rs. 95 lakhs, the allowance would be Rs. 7,60,000.

In these works the proportion of buildings, roads, etc. (to which a low rate of depreciation applies) to the total capital value is considerably higher than at Jamshedpur. We therefore think that a depreciation of 5¾ per cent. which is the allowance the Company shows in its own detailed calculations may be adopted. This gives us a depreciation of Rs. 5·46 lakhs (Rs. 13 per ton).

The total overheads are:—

Rs. lakhs.	
5·46	Depreciation.
1·44	Interest on working Capital.
7·60	Profit.
14·50	

which is Rs. 34 per ton, taking the output at 42,000 tons per annum.

Estimated future costs.

193. The following table gives our estimate of future costs as adjusted:—

TABLE XXXVI.

	1932. Rs.		Future. Rs.
Cost of steel	110·50	−12·00	98·50
Cost of tin	34·20		34·20
Cost above metal	82·80		82·80
Head office	1·60		1·60
Provident Fund	1·40	+1·00	2·40
Total works costs	230·50		219·50
Overheads	34·00		34·00
Total cost per ton of tinplate	264·50		253·50
Allowance for fall in Welsh prices	...		6·00
Total	...		259·50

It will be of interest to record that a comparison of the works costs of the Tinplate Company with those of a Welsh Company which we have been permitted by the courtesy of that Company to see, does not disclose any marked disparity.

Fair selling price and duty required.

194. We have arrived at a fair selling price of Rs. 259·5 per ton exclusive of any adjustments on account of freight disadvantage and wasters. The Company asks for an allowance of Rs. 30 to cover the lag between realizations and import price, which is roughly, the allowance conceded in 1926 (excluding the packing charges). The Company's representation shows a deficit averaging Rs. 30 incurred each year between import prices and realizations. The actual freight disadvantage over the whole output is Rs. 17 a ton; and the difference in price realised for wasters is Rs. 8 per ton (in 1932). The balance which in 1932 was Rs. 7 a ton is ascribed chiefly to the fact that actual import prices are considerably below the paper quotations. This is supported in effect by the prices actually paid by the Burma Oil Company. We have come to the conclusion that a total allowance of Rs. 30 a ton will be equitable. This gives us a fair selling price of Rs. 289·5, say, Rs. 290 a ton. The imported price of Welsh tinplates in 1932 was Rs. 252; the duty therefore required against competition from the United Kingdom will be Rs. 38 a ton. We may refer here to a handicap which the agreement with the Tata Company may impose on the Tinplate Company. Tata's price of tin-bar is determined by the export price of Welsh tinplate and it is possible for the price of tinplate to go up on account of a rise in the price of tin and thus raise the price of tin-bar to the Tinplate Company, to its disadvantage in comparison with foreign competitors. We suggest that it may be possible for the Companies to reconsider the terms of this agreement.

It is also necessary to point out another anomaly which arises out of this agreement. In our report on the Rolled Steel Industry we have shown that the Steel Company is now in a position to supply tin-bar at a price a good deal lower than is fixed by the agreement. If the agreement were for a price of Rs. 64 (the import price of semis f.o.r. Port) the fair selling price of tinplate could be reduced by Rs. 13·3 a ton (as compared with the price with bar assumed at Rs. 74) and the duty proposed could be reduced by this amount.

Foreign prices.

195. We now come to a difficult task, the calculation of other foreign prices. Here again we are faced by the problem that there exist no definite published price quotations, and that the price at which foreign exporters are prepared to deal is limited only by the exigencies of the moment. Competition in India other than from Wales has hitherto been chiefly from America and Germany. Recently an Italian works, using bars imported from other Continental countries at a subsidized export price, has entered the market. Japan as yet has made no sign of competing abroad. Our information is that she is erecting new tinplate mills, and has somewhat decreased the volume of her imports of tinplate. Trade Journals in December reported a strong revival of American tinplate production and business 'lost' by the Welsh industry to American firms in all parts of the world; prices quoted being in some instances 3 shillings a box (about Rs. 40 a ton) below Welsh prices. Fluctuations in American exchange make any calculation of future prices impossible; but it is reported that in December last American tinplates could be bought at a price which at the rate of exchange then current meant a landed price of Rs. 239 against the Welsh price of Rs. 272. The Tinplate Company claimed a differential duty of Rs. 33 above the duty on Welsh plate to meet this competition. This was with an internal price of $4·65 a box. In the first quarter of 1934 the internal price has risen to $5·25: and prices have been quoted for forward delivery in India at Rs. 246 c.i.f. Welsh prices have fallen somewhat in the interval, so that the difference between the two quotations is considerably less than it was in December.

German competition has become more dangerous because of the system now adopted by German steel combines of substantial subsidies in aid of the export of tinplates. There seems to be no reason to doubt the assertion made by the Tinplate Company and confirmed by the evidence of the Welsh Plate and Sheet Manufacturers that the German price of sheet bar for export trade had been reduced in August to £2-8 as compared with a home price of £5-1. Their practice as reported to us by the same Association is to follow the Welsh prices in the various markets and to reduce their own offer to a price sufficient to obtain the business. We have received evidence that business has been done at an Indian port at a price about Rs. 21 below the Welsh price. A somewhat elaborate system of "Registered Marks" has been brought to our notice by which foreign purchasers are enabled to obtain heavy discounts on the 'home' prices. But we do not know if this system has been made applicable to India. No fixed tariff wall can withstand this type of business: and no method that we know of can deal with it other than the one we have already proposed in connection with Continental steel, *viz.*, the system of promptly applied off-setting duties. Meanwhile we recommend the imposition of a differential duty applicable to all imports other than those from the United Kingdom based on the lowest prices recently quoted in the Indian market, so far as we have been able to obtain them. These are Rs. 21 below the United Kingdom prices, and the differential duty required is therefore Rs. 21 above that recommended for imports from the United Kingdom, *viz.*, Rs. 59.

Other industries affected.

196. The only representations* we have received from other industrial concerns directly opposing the grant of protection come from the Metal Box Company and the National Petroleum Company. The position of the Metal Box Company, a company recently formed to manufacture containers for the canning of fruit and other perishable foodstuffs as stated in its representation of September last was that the material it requires is of better quality than can at present be obtained in India, and that it is inevitable that the Company should be compelled for some time to obtain these essential supplies from South Wales. We understand however that since that time it has been able to obtain supplies of suitable material from the Tinplate Company. The quantity is very small, and we do not anticipate that the Tinplate Company will have any difficulty in meeting it. But if any difficulty occur, our proposal to reduce the duty on Welsh plates will substantially meet the Company's need.

The National Petroleum Company has recently been importing German tinplates, and opposes any differential duty against those on the ground that the Tinplate Company cannot supply its requirements. Its representation and the answer to it given by Tinplate Company show that there has been a misunderstanding between the two Companies in the past, and that the Tinplate Company is both able and willing to supply the Petroleum Company with its requirements of prime tinplates. In any case, we can find no substance in the contention of the Petroleum Company that a differential duty will operate in favour of the Burma Oil Company. The latter Company pays the full import price of Welsh plate for its purchases from the Tinplate Company; and the operation of a differential duty is only to bring the import price of tinplate from all countries to the same level. If the Tinplate Company finds itself unable to supply in future all the requirements of the Petroleum Company, the latter will still be able to import its material at the same price as that paid by the Burma Oil Company. We are moreover not proposing to increase the existing duty. We recognise however that there exists the possibility of future trouble in this respect, owing to the terms of the agreement with the Burma Oil Company which give this Company a claim on the entire output of the Tinplate Company. Any attempt on the part of the Tinplate Company during the currency of the protective scheme to use this agreement to force up prices against other purchasers seems to us in view of the keenness of foreign competition highly improbable, but the Government of India would be fully able to deal with such a situation if it arose, by using the authority which we are proposing elsewhere should be assumed by them of reducing the import duty. At present there is a considerable margin between the demands of the Burma Oil Company and the capacity of the plant; and if the demand for tinplate increases so as to justify it, there seems no reason to doubt that the Tinplate Company will find it to its advantage to increase its capacity or that another company will be able to establish a works in order to meet the increased demand.

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* Since the report went to Press, we have received representations similar to that of the National Petroleum Company from the Buyers and Shippers Chamber, Karachi, and the United Provinces Chamber of Commerce, Cawnpore.

Summary.

197. Our recommendations are therefore for differential duties of Rs. 38 a ton on imports of tinplate from the United Kingdom, and of Rs. 59 on imports from all other countries. The duties should be imposed as in the case of Rolled Steel Industry and for substantially the same reasons for the period ending March 31, 1941.

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CHAPTER XI.

Wire and Wire Nails.

Manufacturing companies.

198. The last enquiry by the Tariff Board into the Wire and Wire Nail industry took place in 1931 and their recommendation to impose a specific duty of Rs. 45 per ton on wire and wire nails was approved and passed into law as Act No. V of 1932. In 1931 the only Company interested was the Indian Steel and Wire Products, situated at Tatanagar. Since then another Company has been started in Karachi by Messrs. Devidas Jethanand for the manufacture of wire, wire nails and screws. The Indian Hume Pipe Company in Bombay also draws wire for use in the manufacture of reinforced concrete pipes. Both these companies use imported rods on which they obtain a rebate of the Customs duty. We have visited the works at Tatanagar and Bombay and examined the representatives of all the companies.

Previous enquiry.

199. The enquiry in 1931 dealt with the general question of the claim of the industry to protection. The protection which was granted to the original Company in 1924 was withdrawn in 1928 on the financial failure of that Company. The Board held that the present proprietor took over the property in the reasonable expectation that protection would be restored on his proving that he would be able to run the works economically and would install a mill for the production of the wire rod which the Tata Company had stated its inability to produce. The Board recognised that there were grave objections to the grant of protection to an industry which had yet to prove its capacity, but held that these objections were outweighed by the history of this particular industry, and the fact that unless steps were taken to preserve it forthwith, its ultimate development into an industry using indigenous material would be rendered impossible. While recommending therefore the continuance of the exemption of imported rod from duty, the Board proposed a specific duty of Rs. 45 a ton on both wire and wire nails.

Claim of the existing Company upheld.

200. The rod mill which was thus made the crucial point in the recommendation for protection has now been installed and commenced operations in September last. The Board in 1931 expressed the belief that its installation might represent the beginning of a re-rolling industry in India. Our comments on the re-rolling industry earlier in this report will show that in our opinion this belief is in process of being fulfilled. The Company has obtained from the Tata Iron and Steel Company an assurance that it will be able to supply the full requirements of the rod mill in raw material and power, and the evidence thus far available leads us to conclude that the mill will be able shortly to work economically and

easily to hold its own in the Indian market. We have no hesitation therefore in upholding its claim for substantive protection.

Description of plant.

201. The capacity of the mill is rated at 150 tons per day, say, 45,000 tons per annum. The rest of the Company's plant (for wire and nails) can produce, it is estimated, 12,000 tons (in terms of wire). Taking into account the expected rate of wastage it will be possible for the mill, when working to capacity, to produce about 30,000 tons of small bars and sections in addition to wire rod. Out of the 12,000 tons of wire the company's nail plant at present is capable of manufacturing 6,000 tons of wire nails. The Company also possesses a galvanising plant capable of dealing with an output of 2,000 tons of wire. Of this about one-half, or 1,000 tons a year, can at present be converted into barbed wire on the Company's plant. Since our visit to Jamshedpur, we are informed, additional machines have been purchased and will shortly come into operation, which the Company estimates will raise the output of barbed wire by an additional 2,500 tons, and extensions to the galvanising plant are also under contemplation.

Markets.

202. Tables XXXVII, XXXVIII and XXXIX below give the imports during 1928-29 and 1932-33 of wire and wire nails and fencing materials as compiled from the Customs returns. We take 1928-29 as representing a normal year. Japanese imports began in 1932 and the figures are given separately. Table XL gives the Indian production in 1932-33.

TABLE XXXVII.

Wire (other than fencing wire).

Imports (in tons).

	From United Kingdom.	From other countries.	Into Bengal.	Into other provinces.	Total imports.
1928-29 .	1,341	8,641	4,290	5,692	9,982
1932-33 .	1,141	8,490 (Japan 1,069)	3,890	5,741	9,631

TABLE XXXVIII.

Wire Nails.

Imports (in tons).

	From United Kingdom.	From other countries.	Into Bengal.	Into other provinces.	Total imports.
1928-29 .	483	17,428	5,950	11,961	17,911
1932-33 .	213	12,985 (Japan 3,241)	2,830	10,368	13,198

TABLE XXXIX.

Fencing materials (including fencing wire).

Imports (in tons).

	From United Kingdom.	From other countries.	Into Bengal.	Into other provinces.	Total imports.
1928-29	1,521	8,304	3,606	6,219	9,825
1932-33	589	3,935 (Japan 574)	1,173	3,351	4,524

TABLE XL.

Indian Production (in tons).

		Wire.	Wire Nails.	Total production.
1932-33	Indian Steel and Wire Products	1,273	3,679	4,952
	Messrs. Devidas Jethanand	...	...	850
	Indian Hume Pipe Company	230	...	230

If we take 1928-29 as a normal year, we may estimate the normal consumption in India of wire (other than fencing wire) and wire nails at approximately 28,000 tons a year. The consumption in Bengal which is the market most accessible to the Indian Steel and Wire Products may be taken on the same basis at about 10,000 tons. The present consumption in India as judged by the figures of 1932-33, is approximately 29,000 tons. This includes the Indian production during the year. The total Indian consumption in 1932-33 thus remained at approximately the same level as in 1928-29. If it is assumed that the bulk of the production at Tatanagar in 1932-33 was consumed in the Bengal market, which is a reasonable assumption, it will be found that the consumption in Bengal in 1932-33 also remained at the same level as in 1928-29. We may conclude therefore that in Bengal where the freight disadvantage to the Indian Steel and Wire Products is the lowest, there is a market sufficient to absorb nearly 80 per cent. of the Company's maximum output of wire and wire nails. No separate figures are available of the imports of fencing wire in which is included barbed wire for which the Company has claimed protection. But it will be seen from the figures that if fencing wire is excluded from the scheme of protection, there will still be a market large enough for the Company's full output of wire and nails in areas not far removed from the works. Another fact of some importance which emerges from an examination of these figures is that while the aggregate consumption of wire (other than fencing wire) and wire nails has remained more or less stationary between 1928-29 and 1932-33 the consumption of fencing materials (including fencing wire) in 1932-33 showed a decline of more than 50 per cent. Since the demand for fencing wire is to a large extent agricultural it may be inferred that the enormous fall in agricultural prices since 1929 accounts for most of the decline in demand. This is a factor which has an important bearing on the proposal, which we discuss later, to levy a protective duty on barbed wire.

The imports of bars (not protected) in 1928-29 amounted to 70,827 tons and in 1932-33 to 47,347 tons. The quantity of unprotected bars imported into each province is not shown separately in the Trade returns. If we assume that its distribution is more or less in proportion to that of the total quantity of bars imported, the consumption in Bengal in 1928-29 may be estimated approximately at 20,000 tons and in 1932-33 at 16,000 tons. It seems therefore probable that in the case of bars and sections, it will be necessary for the Company to dispose of at least a third to a half of its output in distant and relatively unfavourable markets. The figures however show that the total consumption of small sized bars in India is such as to afford scope for their economical production in the country.

Raw material.

203. We have already stated that the Company has obtained an assurance of supply of billets from the Tata Company. The price at which these are to be supplied is a matter still under negotiation between the two Companies. As a temporary measure, in order to encourage the new industry, the Tata Company has been supplying billets at the concession price of Rs. 60. In our report on the Rolled Steel industry we have shown that the Tata Company will be able to supply billets at the import price f.o.r. Calcutta of about Rs. 64 and still be obtaining a rate higher than the fair selling price we have estimated. We shall therefore assume in assessing the costs of the Indian Steel and Wire Products that their raw material will be obtained at a price of Rs. 64 a ton. We consider this to be an adequate price. A higher price will involve raising the duty on small bars and sections, which are sold chiefly in the bazar, to a level higher than that on the larger bars and sections, a result which we consider to be unjustifiable.

Cost of production.

204. In estimating costs of production we find ourselves confronted with much the same difficulties that we met with in 1931. The rod mill has been working for too short a time to reflect with any accuracy what its final costs will be. And the costing system adopted by the Company in its other departments is still indeterminate, and makes it impossible for us to estimate the spread between the rod mill, the wire and the nails departments. After estimating costs in the rod mill, we shall therefore be obliged to link up the costs of the wire and nails departments. There is the less objection to this in that on other grounds also we shall find it convenient to give the same duty on both wire and wire nails.

The Rod Mill.

205. At the former enquiry it was stated that the estimate of conversion costs from billet to rod prepared by the Company with the advice of the manufacturers of the machinery was Rs. 25 with an output of 100 tons a day, and Rs. 21-4 with an output of 150 tons a day

Taking a mean of about 120 tons a day as a reasonable output to expect, we should arrive at a figure of Rs. 23 a ton as the costs of conversion. The cost sheets supplied for the first two months working give a figure of about Rs. 34 with an output averaging only 10,000 tons per annum and we believe that with a few months more experience and with the mills working 3 shifts a day the manufacturers' estimate which we put at Rs. 23 will be obtained on the larger output. 120 tons a day is equivalent to about 36,000 tons per annum, a very reasonable figure. We admit an allowance of 10 per cent. for wastage and a credit of Rs. 2 a ton for scrap. The works cost of wire rod will therefore be—

TABLE XLI.

	Rs.
Billet	64
Wastage 10 per cent.	6·4
Conversion	23
	93·4
Less credit for scrap	2·0
	91·4

This works cost should apply to both wire rod and small section bars which can be rolled on the mill.

Overheads.

206. The capital cost of the rod mill and its buildings incurred by the Company is Rs. 8,96,000. Of this Rs. 6,20,000 is machinery. We propose to allow 10 per cent. depreciation on the machinery and 2½ per cent. on the remainder. The depreciation amounts to Rs. 68,900 equivalent to Re. 1·9 per ton on 36,000 tons. Working capital we take at the works cost of six months output, Rs. 16 lakhs and in the special circumstances of this Company agree that it is reasonable to allow 7½ per cent. as interest, *viz.*, Rs. 1,20,000 Rs. 3·30 per ton. Profit we agree should be calculated at 8 per cent. on the block cost of the plant, say Rs. 2 per ton. The fair selling price f.o.r. Tatanagar will then be—

TABLE XLII.

	Rs.	Rs. per ton.
Overheads—		
Depreciation	68,900	1·90
Interest on working capital	1,20,000	3·30
Profit	71,680	2·00
Works costs	...	91·40
Fair selling price f.o.r. Tatanagar	...	98·00

Fair selling price.

207. Certain adjustments are claimed by the Company on account of sales organisation and freight disadvantage. Its claims on account of selling expenses we consider to be excessive. They are in the case of rods (per ton) Rs. 3 commission on sales, Re. 1 cash rebates and bad debts, Rs. 3·8 stock yard expenses. For the reasons which we have set out at length in relation to the Tata Iron and Steel Company we have allowed that Company 2½ per cent. on the fair selling price to cover all selling expenses. With the smaller Company, having its goodwill still to create, we agree that the expenses will be higher: and propose to allow Rs. 5 per ton on this account. Freight disadvantage in respect of sections we have no means of estimating accurately. The consumption figures show that a large proportion of the sales will perforce be outside of the freight advantage area. The Company will be in a somewhat worse position than the Steel Company since it will not be able to obtain the special freight concessions of the Tata Company and its disadvantage in comparison with imports will be proportionately greater. We propose to allow the Company Rs. 9 per ton. We add a further adjustment of Rs. 4 on account of the lag that our investigations show invariably occurs between a fair selling price and the estimated duty paid import price. The corresponding adjustments allowed to the Tata Company for bars were Rs. 2·3 (selling expenses), Rs. 6 (freight disadvantage) and Rs. 3 (lag). The fair selling price at port amounts to Rs. 98·6 *plus* Rs. 5 *plus* Rs. 9 *plus* Rs. 4 = Rs. 116·6, say Rs. 117.

Wire and wire nails.

208. We have already referred to the fact that we have found it impossible on the figures supplied to us to allocate properly the spread between rod and wire, and wire and wire nails owing to the apparently arbitrary system followed in distributing charges between the two departments. The following table contains the Company's figures:—

TABLE XLIII.

Year.	Cost of rod.	Spread between rod and wire.	Cost of wire.	Spread between wire and nails.	Cost of nails.	Spread between rod and nails.	PRODUCTION.	
							Wire.	Nails.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Tons.	Tons.
1930-31 .	106·19	29·15	135·34	43·76	179·10	72·91	1,818	1,553
1932-33 .	103·91	25·92	129·83	44·76	174·59	70·68	4,951	3,678
May 1933	105·00	47·80	152·80	15·84	168·64	63·64	614	375

The figures for 1930-31 do not include wastage.

In 1931 the Board estimated that the spread between rod and nails should be approximately Rs. 65. Such evidence as we have suggests that this figure represents a fair cost above metal for nails.

Fair selling price for nails.

209. We propose to transfer the rod from the rod mill to the wire plant at the fair selling price f.o.r. Tatanagar, *viz.*, Rs. 98·6. Since that cost includes interest on the working capital required on the rod, the raw material of the wire works, due allowance will be made for this in estimating the working capital required for the production of wire. With rod charged to the nail department at Rs. 98·6 per ton, the works cost of nails will be Rs. 98·6 *plus* Rs. 65 = Rs. 163·6 per ton.

Overheads and fair selling price.

210. The overheads for the nail department now require to be calculated. The present proprietors took over the property from the old Company at a price which bears no relation to its real market value. We propose therefore to accept the figures which were submitted to the Board in 1931 as being the cost of a new factory with the same capacity and output, *add* the cost of the plant since added, and allow depreciation on this sum. It amounts in all to Rs. 9,41,000 of which Rs. 6,28,000 represent the cost of machinery. As with the rod mill we propose to allow 10 per cent. on the machinery and 2½ per cent. on the remainder. The depreciation amounts to Rs. 70,600 and taking 10,000 tons of nails as representing a fair output the allowance per ton required is Rs. 7.

Profit is admitted as before at 8 per cent. on the capital value of Rs. 9,41,000, Rs. 75,280 or Rs. 7·5 per ton.

Working capital is taken as the value of 6 months production excluding the cost of rod, *i.e.*, Rs. 3,25,000. Interest at 7½ per cent. amounts to Rs. 24,375 or Rs. 2·4 per ton.

TABLE XLIV.

Fair selling price of nails.

	Rs.
Works cost	163·6
Depreciation	7·0
Interest on working capital	2·4
Profit	7·5
Total	180·5

Adjustments to fair selling price.

211. To this price are to be added similar allowances to those discussed in paragraph 207. Rs. 5 per ton on account of sales organization will amount to a little more than 2½ per cent. on the fair selling price. In regard to freight disadvantage we have already referred to the fact that the Company may in due course expect to dispose of the bulk of its output in the Eastern area. In general it may be said that the freight disadvantage will be greater in the case of small sections than of nails because a larger proportion will have to be sold in disadvantageous areas. We have allowed Rs. 9 to small sections and think that Rs. 8 will suffice for

wire and wire nails. We propose to allow Rs. 4 as in the case of rods to cover the lag in realizations. The fair selling price of wire nails at port is therefore Rs. 198 per ton.

Import prices: Wire-rod and small sections and duty required.

212. The Customs returns do not differentiate in the case of unprotected bars, which include such rods, bars and small sections as will be rolled on this mill, between imports from the different countries. The representation of Indian Steel and Wire Products does not refer to competition from the United Kingdom and we have reason to believe that the great bulk of the imports are from countries other than the United Kingdom. It is probably for this reason that we have been unable to obtain any quotations of Indian landed prices for British material. The Continental prices submitted in the Company's representation show for 'sections' below one-half inch an average landed price of Rs. 70 in 1932 and Rs. 78 in the first seven months of 1933. These are somewhat lower than the averages obtained from the Customs valuations which cover imports from all countries. The tendency is for prices to rise. We think we shall be justified in taking as the basis of our recommendation for a duty the average price of the first half of 1933, *viz.*, Rs. 78. The duty would be Rs. 117—Rs. 78 = Rs. 39. The duty of Rs. 39 which we have recommended on untested bars imported from countries other than the United Kingdom, may be extended also to bars and sections below ½ inch in diameter. The duty applicable to similar bars and sections imported from the United Kingdom will be that proposed for tested bars, *viz.*, Rs. 10. These duties will remain in force till March 31, 1941.

Import prices: Wire nails.

213. It is much more difficult to arrive at an estimate of the competitive prices of the other products. There is a great variety of gauges in use both of wire and wire nails and the prices differ greatly according to the fineness of the gauge. The Customs returns do not differentiate between gauges, nor specify special products.

The following table gives landed prices of wire nails extracted from the Customs returns:—

TABLE XLV.

——	1932-33.			1933 34 (9 MONTHS).		
	Tons.	Value per ton.	*Plus* duty.	Tons.	Value per ton.	*Plus* duty.
		Rs.	Rs.		Rs.	Rs.
United Kingdom and possessions .	218	231	276	180	232	277
Germany . .	2,335	180	225	896	159·9	205
Belgium . .	5,739	188·6	233	3,235	165·4	210
Japan . . .	3,241	153·3	198	2,877	171·8	217

The following are the Continental prices of comparable qualities and sizes quoted by the Company in its representation:—

	Average c.i.f. price per cwt.			Per ton.		
	Rs.	A.	P.	Rs.	A.	P.
1931	6	9	10	132	4	8
1932	7	9	2	151	7	0
1933 (6 months)	6	11	2	133	15	4

These are equivalent to landed prices without duty of about Rs. 136, Rs. 155 and Rs. 137. These quotations do not include the Japanese prices. These for 1932 average Rs. 6-5-9 per cwt. (Rs. 130 landed price) and for the first six months of 1933 Rs. 6-1-4 per cwt. (Rs. 125 landed). The current prices of Continental material landed in Calcutta as given by the British manufacturers average (taking the arithmetical mean of all gauges) Rs. 130-8 per ton. These obviously include the Japanese prices.

The price claimed by the Company as the basis of its estimate of duty required is Rs. 6-14 per cwt. c.i.f., Calcutta (its highest Continental quotation in the current year) which is the equivalent of a landed price of Rs. 140-8 a ton. The current bazar price (March) in Calcutta as quoted in the Trade journals is Rs. 9-4, which is equal to a landed price of Rs. 140 a ton.

Duty required: "other countries".

214. The duty required with import prices averaging Rs. 140 would be Rs. 58. We propose a duty of Rs. 60 as giving reasonable protection. We reiterate that dumping prices such as those reported against Japan can only be dealt with, when established, by operation of the provision for offsetting duties. The operation should depend upon the average landed price of imported nails, the price which we have taken as the basis for determining the duty being Rs. 7 a cwt. or Rs. 140 a ton.

Duty required: United Kingdom.

215. The Company has made no claim for protection against British wire and nails. The Customs returns show for nails a steady landed price of about Rs. 231 a ton over the past two years, and indicate that much of the British material must be of qualities and specifications with which the Indian industry does not compete. The current landed prices of British wire nails supplied to us by the United Kingdom manufacturers show an average over all gauges of Rs. 173 a ton. A duty on nails from the United Kingdom of Rs. 25 a ton will therefore be sufficient to protect the Indian industry.

Duty to be the same on wire and nails.

216. We have referred in paragraph 208 above to the impossibility of establishing a fair selling price of wire, owing to the absence of a proper costing system for allocation of the 'spread'. The tendency over the last 2 years has been for the prices of nails and wire to draw closer together particularly in the

heavier gauges and the average difference between prices of wire and nails appears to be on the whole somewhat smaller than what is likely to prove the correct spread between the costs of production of wire and nails. We propose to continue the present system which imposes the same specific duty on nails and wire. We recommend, as in other cases, that the duties shall be imposed for the period ending March 31, 1941.

Firms using imported wire.

217. We have received applications from two firms which intend to manufacture nails from imported wire for the imposition of a higher duty on nails than wire. There is we believe a number of such small factories in Calcutta and elsewhere, though no representation has been received from them. The Board declared in 1924 that in their opinion the manufacture of wire nails from imported material was not a fit industry for the grant of protection. In any case we could not consistently with the principles laid down for our guidance either increase the protective duty on nails to a figure higher than is shown to be adequate, or decrease the duty on wire to a figure which we consider inadequate to protect the industry using indigenous material, in order to give special assistance to these works. The imposition of the same duty on both wire and nails leaves them in relatively the same position as before *vis a vis* the wire manufacturers until the latter have firmly established themselves as makers of the indigenous material.

Fencing material.

218. In the recommendations of the Board made in 1931, barbed and stranded fencing wire, wire rope and wire netting were excluded from the protective scheme, chiefly at the urgent suggestion of the Imperial Council of Agricultural Research, who have again represented to us the need of cheapening the cost of wire fencing used for agricultural purposes. The total imports of fencing materials last year amounted to less than 5,000 tons. We have considered carefully the effect upon the industry of the proposed exemption and have come to the conclusion that the wire and wire nail industry as a whole will not be seriously affected if all fencing materials continue to be subject only to the *ad valorem* revenue duty. We have pointed out in paragraph 202 that it seems likely that the full output of the wire and nail plant can be marketed if need be without manufacturing barbed wire. On the other hand the heavy decline in the consumption of fencing materials suggests the importance of keeping the prices low.

Other works.

219. The recommendation of the Board in 1931 to exempt from payment of duty on imported rod the Indian Steel and Wire Products was extended to two other concerns, Messrs. Devidas Jethanand and Company of Karachi and the Indian Hume Pipe Company of Bombay. The former Company manufactures wire and nails and screws; the latter draws wire only for use in the reinforcement of concrete pipes. We have examined the costs submitted by Messrs. Devidas Jethanand. They amount to a cost above rod of about Rs. 120 per ton of nails,

which compares with about Rs. 82 that we have decided to be the fair cost at Tatanagar. Imported rod has been obtained at about Rs. 103 duty free. Obviously protective duties cannot be computed on the larger figures and the suggested bounty is out of the question. Even with duty free rod, it is clear that until costs are reduced Messrs. Devidas Jethanand will only be able to compete with the Tatanagar Company in markets in which they have a very large advantage in railway freights, whatever duty may be put on nails. With the duty that we have recommended they will be able to compete with foreign imports even in these markets only by drastically reducing their costs. Their maximum output has not reached 1,000 tons per annum, and they put their capacity at about 2,000 tons working a single shift. We recommend that a breathing space may be given to them, during which to put their house in order, by allowing them as at present to import wire rod free of duty up to a maximum of 1,500 tons of rod per annum. The period we propose is two years. During that time it will be open to the two Companies to come to an arrangement for the supply of raw material to the Karachi works. The Tatanagar Company will be able shortly to produce the rods required at a works cost of about Rs. 92 a ton, provided it obtains the billets at the price we have suggested. We consider that the Company should be able to supply the raw material of the sister industry at a price not substantially higher than this. Even if it makes no profit on the transaction the extended output will enable the Company to reduce costs and spread the overhead charges. But an agreement of this sort is possible only if some arrangement can be arrived at to convey the material at reduced freights. If no special concession can be obtained from the railway, we have been informed that with sufficient demand, sea freights can be obtained that would enable the raw material to be taken to Bombay and Karachi at considerably less than the present railway rates.

Railway freights.

220. A grievance of the Karachi Company on which it has laid great stress in its evidence is that considering distance only it has a great natural advantage over the Jamshedpur Company in the North Western markets, which is not reflected in the Railway rates from Karachi. Since the Company gave evidence those rates have been considerably reduced, and the reduction should much assist it in competition with the Tatanagar factory. On the other hand, it must not be forgotten that its situation so far from the only possible source of indigenous raw material imposes on it from the beginning a very grave handicap. The figures of imports into Karachi of wire and wire nails show that the market which is at present supplied from that port consumes about 2,500 to 4,000 tons per annum. If the Company can reduce its costs to a competitive figure we see no reason why it should not supply one half of this market. The Company has expressed its intention of erecting a rolling mill for the rolling of rods and other small sections. In view of the figures of consumption which we gave in paragraph 202, and the small proportion of it which can be reached economically from Karachi.

it seems desirable to utter a word of caution in respect of this proposal.

Manufacture of screws.

221. Messrs. Devidas Jethanand and Company also manufacture wood-screws and have applied for protection of this industry. Their capacity is stated to be 1,000 gross a day, and they claim to have means of increasing it to some 5,000 gross. This is equivalent to a present capacity of 134 tons and a future capacity of 670 tons per annum. The average consumption of screws in India during the last 2 years has been about 1,748 tons per annum. Their reported costs of production are 6 annas 6 pies per gross inch. The price of Continental screws is to-day about 2 annas 7 pies per gross inch, and Japanese prices have fallen as low as 1 anna 6 pies per gross inch. The cost of raw material (*viz.*, wire) is only 1 anna 8 pies out of the total cost of production of 6 annas 6 pies, so that a considerable reduction in the cost of wire could have no appreciable effect on the price of the Indian screw. In the circumstances we can see no reasonable prospect of the industry ever being able to dispense with protection; and are unable to recommend the imposition of any protective duty.

The Indian Hume Pipe Company.

222. The Indian Hume Pipe Company started the manufacture of wire in 1933, and also had an intention to manufacture nails. The fall in the price of wire nails however deterred the Company from pursuing the manufacture of nails, and only one machine was purchased. Hardly any wire has been put on the market and we understand that it is the present intention of the Company to manufacture wire only for its own consumption in the making of the Hume Concrete pipe, for the Company has expressed its willingness not to sell wire, if the Indian Wire and Steel Products agrees to supply wire rod. The Hume Pipe Company has obtained the concession of importing its wire rod free of duty, and pays to-day Rs. 105 a ton delivered in Bombay. The figures of costs submitted to us do not indicate that it is likely in the near future to be able to compete with the Tatanagar Company in the manufacture either of wire or nails. We recommend that the rebate of Customs duty on a maximum of 500 tons which represents twice the consumption during 1933 should, as to the Karachi firm, be continued to the Hume Company for a period of 2 years, during which it will be open to the Company to arrange for the supply of rods of Indian manufacture.

PART III.

CHAPTER XII.

Iron and Iron Products.

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CHAPTER XII.

Iron and Iron Products.

Iron included in present terms of reference.

223. Various problems connected with the production and sale of pig iron in India have been brought to the notice of the Board in the course of the present enquiry. In previous enquiries into the steel industry these problems were considered to be outside the Board's purview except in so far as they had a direct bearing on the question of protection for the steel industry. In the terms of reference under which the present enquiry is referred to the Board, we are at liberty to examine the claims for protection of industries making iron and steel products which do not come within the scope of the Acts under which protection is now granted to the steel industry. The case for the protection of iron products and the problems relating to the manufacture and sale of pig iron fall therefore directly within our terms of reference in this enquiry. We have received several representations in connection with these matters from manufacturers and from users of pig iron and have carefully examined the questions arising from them. We propose to deal with these questions in this Chapter.

I.—PROTECTION FOR CAST IRON PIPES.

Indian production of cast iron pipes.

224. The Bengal Iron Company and the Mysore Iron Works have urged that protection should be granted to the manufacture of cast iron pipes. This is practically the only class of iron products for which protection has been claimed. The two applicant Companies are the chief manufacturers of cast iron pipes in India. There are also smaller manufacturers in and around Calcutta but their total output is at present inconsiderable. The production of cast iron pipes by the Bengal Iron Company and the Mysore Iron Works during the period 1930-33 is shown below:—

TABLE XLVI.

	Bengal Iron Company.	Mysore Iron Works.	Total.
	Tons.	Tons.	Tons.
1930-31	36,173	9,104	45,277
1931-32	25,207	8,723	33,930
1932-33	19,569	7,791	27,360

The Companies work at present under an understanding by which the available market in the country is distributed on a geographical basis between the two concerns. The imports of cast iron pipes have been relatively so small (see paragraph 228) that it is correct to say that the production in India approximately indicates the total consumption in the country. On the figures given above, the average annual consumption during the past three years amounts to about 35,000 tons. More recently the demand has fallen to a lower level than in 1932-33. The Indian Companies claim that the quantity of cast iron pipes sold in 1922-23 may be taken as the normal consumption. This amounts to approximately 50,000 tons a year. The combined manufacturing capacity of the Bengal Iron Company and the Mysore Iron Works, so far as this can be estimated for a product so irregular in demand and representing so many different sizes is stated to be 75,000 tons a year. Of this the Bengal Iron Company represents 60,000 tons. The total Indian capacity is therefore considerably in excess of the estimated normal demand.

Fiscal Commission's conditions satisfied.

225. We are required under our terms of reference to examine how far industries claiming protection for products which are not included in the present Protection Acts satisfy the conditions laid down by the Fiscal Commission. It is unnecessary to labour the point that the industry possesses natural advantages as contemplated in the first condition. The production of pig iron in sufficient quantities at an exceptionally low cost in the Bengal area and the existence of a market large enough for economical production amply justify the claim that the first condition is satisfied. The second condition is that the industry must be one which without the help of protection either is not likely to develop at all or is not likely to develop so rapidly as is desirable in the interests of the country. This is a condition which is not fulfilled by the cast iron pipe industry to the extent that the industry is already in a position to meet more than the normal demand and does not therefore stand in need of further development. But as will be seen later the position which the industry has already attained may receive a severe set back if protection is not given against competition from countries in which the level of prices is at present particularly low. With regard to the third condition, namely, that the industry must be able eventually to face world competition without the aid of protection, it is clear from the figures given in a later paragraph that hardly any protection is required against competition from the United Kingdom and that the necessity for protection is confined to competition from Japan where conditions are at present abnormal in certain respects. It is a legitimate inference from this that under normal conditions the industry will be able to face world competition without protection. In the light of these facts, we find that while the conditions laid down by the Fiscal Commission are generally satisfied, the protection required by the industry is limited to the extent to which prices have been depressed by competition from Japan.

Works cost estimated

226. In estimating the fair selling price of the Indian industry, we propose to base our examination on the works cost of the Bengal Iron Company. This Company is the largest producer of cast iron pipes in India and

its operating costs therefore provide the most suitable basis for determining the fair selling price of the Indian industry. The costs of the Mysore Iron Works besides being based on a smaller output are calculated on a higher cost of pig iron due to the fact that charcoal and not coke is the fuel employed. On an examination of the Bengal Iron Company's costs, we estimate that the works cost per ton of cast iron pipes is Rs. 77. The Company does not manufacture any pig iron at present. Since November 1931, it has received its supplies from the Indian Iron and Steel Company, at a price of approximately Rs. 30 per ton of pig iron delivered at the works, which we consider a fair price. This figure corresponds to the price at which pig iron has been sold by the Indian Iron and Steel Company under its contract with the Railway Board and also to the recent average realisations *ex*-works of the Tata Iron and Steel Company and of the Indian Iron and Steel Company on their sales of pig iron in India. The data necessary for calculating the amount of overhead charges and profit on cast iron pipes have been difficult to obtain since in the case of both the Bengal Iron Company and the Mysore Iron Works the capitalisation includes plant and machinery required for the manufacture of pig iron and other articles in addition to cast iron pipes. On such information as we have been able to gather, we estimate that a sum of Rs. 160 may be taken as a fair capitalisation under present conditions per ton of output for a cast iron pipe foundry with the necessary buildings and accessories. Calculating overhead charges and profit at the rates we have allowed for the steel industry, we arrive at the following fair selling price for cast iron pipes f.o.r. works:—

TABLE XLVII.

	Per ton. Rs.
Works cost	77·0
Depreciation	10·0
Interest on working capital	2·2
Head office, etc.	3·0
Profit	12·8
	105·0

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Freight disadvantage.

227. The applicant companies have claimed that in determining the fair selling price, allowance must be made for the freight charges incurred on the finished product. It is impossible to estimate with any accuracy the average freight disadvantage on an article like cast iron pipes. As compared with rolled steel, the demand for pipes is extremely irregular as regards both location and period. Consequently an average figure calculated on the basis of the sales in any particular year may be entirely misleading as an estimate of the charges likely to be incurred during the period of protection. We have been supplied with a detailed statement of the actual freight disadvantage incurred by the Bengal Iron Company on its sales of

cast iron pipes during the past three years. Except in the Calcutta area, the disadvantage to the Company as compared with the freight from the nearest port has generally exceeded Rs. 30 per ton and in several cases has been as high as Rs. 60 to Rs. 100. The sales in the Calcutta area during this period were approximately 20 per cent. of the total sales. On an examination of these figures we consider that a sum of Rs. 25 per ton may be regarded as a very moderate estimate of the freight disadvantage which the Company may be expected to incur on its sales of cast iron pipes. Adding this, we arrive at a fair selling price of Rs. 130 per ton f.o.r. port.

Import prices.

228. In the published Trade returns, the quantities and values of imported cast iron pipes are combined with those of steel pipes and fittings for pipes. It is impossible therefore to obtain from the published figures the average values of imported cast iron pipes. Since February, 1933, the Director-General of Commercial Intelligence and Statistics has compiled separate figures for cast iron pipes on information supplied to him by Collectors of Customs. These figures which have been placed at our disposal are summarised below:—

TABLE XLVIII.

Imports of cast iron pipes.

	February—December, 1933.		
	Quantity imported.	Total value.	Value per ton.
	Tons.	Rs.	Rs.
United Kingdom .	1,969	1,40,008	131
Japan . . .	851	61,694	72·5

Imports from other countries during this period have been negligible. We propose to base the measure of protection on the average values as shown in this table. The information supplied to us by manufacturers regarding prices has been so conflicting that much reliance cannot be placed on it. On the values as given in the table, no protective duty is required on imports from the United Kingdom while on imports from countries other than the United Kingdom the duty required is Rs. 57-8 per ton. We propose that a protective duty at this rate should be imposed on cast iron pipes imported from countries other than the United Kingdom for the period ending March 31, 1941.

Effect of Japanese competition.

229. Although imports form at present a very small proportion of the Indian consumption, there is a real danger, if the prices of Japanese imports continue at the present level, that the Indian industry will incur serious losses. In recent tenders, Indian manufacturers have been compelled in anticipation of acute competition from Japan to quote prices which in some cases have been hardly enough to meet their works expenditure. The Mysore Iron Works have drawn our attention to a recent order for cast iron pipes

by the Bhavnagar State which they obtained in competition with Japanese tenders at a price equivalent to Rs. 78 c.i.f. More recently we believe that still lower prices have been quoted by Indian manufacturers. In view of the substantial decline in recent years in the prices and quantities of pig iron exported from India, it is of the utmost importance that the outlet for pig iron which exists in India should be preserved as far as possible. The quantity of pig iron exported in 1932-33 shows a decline of 50 per cent. as compared with 1930-31. Although since 1932-33 there has been a perceptible increase in the quantity exported the productive capacity in India is still so largely in excess of the demand, that the development of the internal market for pig iron must be regarded as a matter of great consequence to the Indian industry.

Imported steel and asbestos pipes

230. We have received an application from the Indian Hume Pipe Company that a protective duty should be imposed on steel pipes and asbestos pipes imported into India on the ground that these compete with steel pipes manufactured by the Company in India. The manufacturers of cast iron pipes have also asked that the protective duty claimed by them should be applied equally to steel pipes and asbestos pipes since these may be used as substitutes for cast iron pipes. The steel pipes manufactured by the Indian Hume Pipe Company are made of steel plates electrically welded and lined with concrete inside by centrifugal process with an outer coating also of concrete or bitumen. Of asbestos pipes imported into India, we have received so little information either from Indian manufacturers of cast iron pipes or from other sources that we think their competition may be regarded as negligible. On the information received by us regarding imported steel pipes we find that the extent to which they compete with cast iron pipes or Hume steel pipes is so limited that it is unreasonable to impose a protective duty on them. The bulk of imported steel pipes consists of screwed and coupled tubes used almost entirely for house water supply connections. These tubes are supplied from sizes ½″ to 2″ which are less than the smallest sizes in which cast iron and Hume steel pipes are made and their essential quality is that they can unlike the latter be manipulated to any shape required. There are also other kinds of steel pipes now imported into India such as oil piping, high pressure steam and hydraulic piping, boiler tubes, etc., for which pipes locally manufactured are unsuitable.

Prices compared with those of cast iron pipes.

231. As regards the classes of imported pipes which are comparable with pipes manufactured in India, we have carefully examined how far, judged by prices, their competition may be regarded as serious. The Hume Pipe Company has supplied us with the quotations tendered recently for various classes of pipes in connection with the extension of the Delhi Water Works. From these we find that on a basis of rates per foot run—which is the most suitable basis for purposes of comparison—the lowest quotations for sizes above 33″ were those of the Bengal Iron Company for cast

iron pipes and for all other sizes those of the Hume Pipe Company. The lowest quotation for imported steel pipes was at least 30 per cent. higher than the lowest Indian quotation. From an examination of these figures it is clear to us that the dominant factor in the determination of Indian prices was the fear of Japanese competition in cast iron pipes. This reacted directly on the quotations tendered by the Bengal Iron Company and also influenced the quotations of the Indian Hume Pipe Company. Once this fear is removed by means of a protective duty on cast iron pipes, we have no doubt that a substantial improvement will result in the prices realised both by Indian manufacturers of cast iron pipes and by the Hume Pipe Company. We find that no case has been made out for a protective duty on imported pipes other than cast iron pipes, except to the extent necessary to compensate Indian manufacturers for the protective duties on rolled steel (see Tariff Schedule Item 103g).

II.—THE PRICE OF PIG IRON.

Arrangements for sale of pig iron in India.

232. A question which has been discussed before us at great length in the course of this enquiry is the price at which pig iron is sold in India. Before we proceed to examine this question it is convenient to set out briefly the existing arrangements regarding the sale of pig iron. There are four concerns which are equipped for the manufacture of pig iron in India—the Tata Iron and Steel Company, the Indian Iron and Steel Company, the Bengal Iron Company and the Mysore Iron Works. Of these the Bengal Iron Company has suspended production since November 1931. The sale of pig iron by Indian manufacturers is effected under an arrangement (subject to 4 months' notice of withdrawal) by which all sales of pig iron in the Bombay Presidency (excluding Sind), in Hyderabad and in the Madras Presidency (up to Bezwada) and in the Indian States enclosed in those areas are diverted to the Mysore Iron Works up to a maximum of 7,000 tons a year. All sales in other parts of India and in the Southern area above 7,000 tons are allotted to the producers in North India. The necessary control is maintained by differential quotations, the difference being Rs. 4 per ton delivered at the buyers' nearest railway station. Sales not allotted to Mysore are divided equally between the Tata Iron and Steel Company on the one hand and the Bengal and Indian Iron and Steel Companies on the other hand. Since the Bengal Iron Company is not producing pig iron at present, the sales are now divided equally between the Tata Iron and Steel Company and the Indian Iron and Steel Company. For sales to Government and the Railways, this equal division is effected by mutual control of the quotations which are usually identical. The remainder of the sales are made to the larger engineering firms and to the smaller indigenous foundries. The sales to the engineering firms are allotted to the Indian Iron and Steel Company and those to the smaller foundries to the Tata Company.

Arrangements for export.

233. This arrangement extends also to sales of pig iron for export. Hardly any pig iron is exported by the Mysore Iron Works. The export business is almost entirely in the hands of the Northern producers. Up to December 1933 the export to Japan was allocated equally between the Tata Company and the Indian Company. Since then the respective shares have been fixed in the ratio of 2:3. In the case of export to the United States of America the ratio is 2:1. As regards exports to the United Kingdom under the Ottawa Agreement, the Tata Company's share is subject to a minimum of 70,000 tons a year while the Indian Company is allowed to export approximately 30,000 tons.

Basic and foundry iron.

234. In these arrangements between the Tata Company and the Indian Company, the underlying idea appears to be that foundry iron will be sold generally by the Indian Company and basic iron by the Tata Company. The sales of foundry iron by the Tata Company amount generally to no more than a few hundred tons. The difference between the two is that while the silicon content of foundry iron varies from 1·25 per cent. to 3 per cent., that of basic iron varies from 0·5 per cent. to 1·25 per cent. The difference in quality resulting from this is that foundry iron is less hard and therefore more suitable for machining and possesses also greater fluidity when melted than basic iron. Foundry iron is therefore preferred in the manufacture of castings while basic iron is generally used as raw material for the manufacture of basic steel. In manufacturing foundry iron, the furnaces are run hotter and consequently consume more coke. The premium generally charged for foundry iron over the price of basic is about Rs. 3 per ton (5 shillings).

Quantities sold in India and exported.

235. The following are the quantities of pig iron sold in India and abroad by the Tata Iron and Steel Company and the Indian Iron and Steel Company during the past five years.

TABLE XLIX.

Tata Iron and Steel Company.

	Indian sales, in 1,000 tons.	Exports in 1,000 tons.
1928-29	27·1	87·8
1929-30	26·6	116·7
1930-31	27·1	88·0
1931-32	29·8	144·2
1932-33	18·9	84·7

TABLE L.

Indian Iron and Steel Company.

	Indian sales in 1,000 tons.	Exports in 1,000 tons.
1929	59·8	344·2
1930	24·4	317·6
1931	100·2	208·4
1932	35·6	138·7
1933	66·1	220·8

Complaint of unfair discrimination.

236. We have received several representations from iron foundries and from responsible commercial bodies in Bengal and Bihar complaining of the prices charged for pig iron sold in India. The principal complaint is that the prices involve a serious element of unfair discrimination. The discrimination complained of is twofold, first, that the prices charged in India are unduly high as compared with export prices, and secondly, that the prices charged to certain manufacturers of iron castings in India are higher than those charged to other Indian manufacturers.

Indian and export prices compared.

237. We shall deal first with the question of export prices. The average prices realised by the Tata Iron and Steel Company f.o.r. works for sales in India and abroad during the three financial years ending March 1933 are shown below—

TABLE LI.

Price f.o.r. works.

	Rs. per ton.		
	Indian sales.	Export.	Difference.
1930-31	29·5	29·7	...
1931-32	28·2	21·5	6·7
1932-33	30·6	19·7	10·9

Figures have been also supplied by the Indian Iron and Steel Company for the three calendar years ending December, 1933. These are as follow:—

TABLE LII.

Price f.o.r. works.

	Rs. per ton.		
	Indian sales.	Export.	Difference.
1931	50·8	24	26·8
1932	35	24·6	10·4
1933	30	21	9

Except in the case of the Indian Iron and Steel Company in 1931, the figures of the past three years show a difference between internal and export prices not exceeding Rs. 11 per ton. The Tata Company's figures in 1930-31 show almost identical prices for Indian sales and exports. Since the special arrangements made by the Indian Iron and Steel Company with the Bengal Iron Company and the Railway Board came into force, the average prices realised by it on its Indian sales have been substantially reduced. This has brought the difference between Indian and export prices down to a figure of about Rs. 10. The representatives of Indian foundries have admitted in evidence that a difference of approximately Rs. 10 per ton between internal and export prices may be regarded as reasonable and does not afford any ground for complaint.

Indian purchasers of iron.

238. We shall now examine the question of discrimination as between different classes of purchasers in India. The Indian sales of the Tata Iron and Steel Company consist almost entirely of basic iron for which the price charged has been generally a uniform price approximating in recent years to Rs. 30 per ton *ex*-works. The question of discrimination in the internal market does not therefore directly arise in this case. Its direct application is confined to the Indian sales of the Indian Iron and Steel Company. The sales of the Company to different classes of purchasers during the past three years are shown below:—

TABLE LIII.

—	Government order for sleepers.	Railway Workshops.	Burn and Company.	Bengal Iron Company.	Other Customers.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1931 . . .	379	3,812	15,198	65,368	8,334	93,091
1932 . . .	4,909	2,887	1,932	14,586	8,938	33,252
1933 . . .	25,976	2,758	665	28,158	7,343	64,900
	31,264	9,457	17,795	108,112	24,615	191,243
Percentage of total .	16·4	4·9	9·3	56·5	12·9	100

The arrangement with the Bengal Iron Company which is the largest purchaser, is that pig iron is supplied at prices which cover works cost and overhead charges. This arrangement is explained on the ground that the Bengal Iron Company is responsible to the debenture holders of the Indian Iron and Steel Company for the capital and interest due on its debentures and that it agreed to suspend production of pig iron on condition that the Indian Iron and Steel Company undertook to supply pig iron at cost price. Approximately the same price is charged also to Burn and Company, an associated Company. The pig iron required for the manufacture of railway sleepers is fixed under agreement at Rs. 30 per ton. It will be seen therefore that it is only in the case of railway workshops and "other customers" that ordinary market prices are charged. On the figures of the past three years, these sales amount to about 18 per cent. of the total Indian sales of the Company.

Ordinary market prices compared with import prices.

239. The ordinary market prices charged by the Company for foundry iron are fixed at a level which is lower than the landed duty paid price of imported iron. Taking No. 3 as typical of foundry iron, the f.o.b. price in England may be taken at current rates at £3-7-6 or Rs. 45. Taking freight, etc., at about Rs. 13½ and import duty at Rs. 7, we get a landed price of Rs. 65·5. Against this, the price at port of Indian No. 3 foundry iron is Rs. 49, the difference being Rs. 16·5. The Company claims therefore that the prices charged to ordinary customers are substantially less than what might be obtained under ordinary competitive conditions. This claim is justified. If the complaint of Indian foundries were that the price paid by them for Indian pig iron was higher or not lower than the price at which they could purchase imported iron the complaint would obviously be baseless. But this is not their complaint. Their complaint is primarily that they are unfairly treated in comparison with their competitors in India as well as abroad who use Indian pig iron.

Disability of Indian foundries—(i) Internal.

240. The Indian Iron and Steel Company has supplied us with a detailed analysis of the class of purchasers referred to as "other customers" in Table LIII in paragraph 238. We find from this that out of the total sales to "other customers" during the three years 1931-33 approximately 15,400 tons were sold to engineering firms leaving a balance of about 9,200 tons to the smaller Indian foundries. Most of the concerns referred to as engineering firms are jute, coal and other companies who require foundry iron for use in their workshops. Averaging the figures of the past three years, we arrive at the following analysis of the sales per year on which ordinary market prices are charged by the Company:—

TABLE LIV.

	In round figures per year.
Railway workshops	3,150 tons.
Engineering firms	5,130 „
Indian foundries	3,070 „

Of these railway workshops and engineering firms make castings mainly for their own requirements and not for the market.

General castings for the market are made chiefly by Indian foundries among this group. So far as the competition in the market is concerned the adverse effect of the discriminatory prices at which pig iron is sold is therefore practically confined to the smaller Indian foundries. While the Companies associated with the Indian Iron and Steel Company obtain pig iron at approximately Rs. 30 per ton for the manufacture of general castings, Indian foundries in the same business are required to pay about Rs. 50 per ton.

(ii) External.

241. We have pointed out that on a comparison of average Indian prices with average export prices, no complaint can reasonably be made that Indian prices are excessive. The position is different, however, when comparison is made between the prices charged to the smaller Indian foundries and those charged for export. The Indian foundries pay a price of Rs. 49 for standard foundry iron at port while the average price at which foundry iron is now exported to Japan is not more than Rs. 25 f.o.b. Indian port. It is well known that Japanese competition in certain forms of iron castings is beginning to be felt perceptibly in the Indian market. If, as seems not improbable, the import duty on pig iron in Japan is remitted in the form of a drawback on iron products manufactured for export from that country, a margin of this magnitude may make it difficult for Indian manufacturers to remain in business. Between the large Companies associated with the Indian Iron and Steel Company and the manufacturers in Japan, Indian foundries producing castings of good quality for sale have been placed in a position of disadvantage by reason of the discriminatory prices at which Indian pig iron is sold.

Discrimination not intentional.

242. It must not however be assumed that this situation has been deliberately brought about or that efforts have not been made to minimise the difficulties of Indian foundries. The Bengal Iron Company which is the largest purchaser of Indian foundry iron and which through its subsidiary, the Eastern Light Castings Company, is the largest producer of general castings, is supplied with pig iron at the low price referred to by reason of its financial connection with the Indian Iron and Steel Company and its undertaking to close down its blast furnaces. If the Bengal Iron Company produced its own pig iron, the price at which the iron would be debited in its foundry would probably not be any higher than that charged by the Indian Iron and Steel Company. Besides, in computing the true commercial cost to the Bengal Iron Company of the pig iron supplied to it, it would be legitimate to take into account the money value of the financial obligations undertaken by it on behalf of the Indian Iron and Steel Company. As regards export prices, it is obvious that Indian manufacturers of pig iron have no means of controlling them—and that with every fall in export prices, the margin between internal and export prices must widen unless the former is reduced simulta-

neously. The past three years have been marked by a rapid decline in export prices.

Efforts to relieve Indian foundries.

243. In fairness to manufacturers of pig iron, reference must also be made to the efforts which have been made by them from time to time to meet the difficulties experienced by the smaller foundries. These efforts have taken the form of supplying low grade pig iron at prices lower than those charged for ordinary foundry iron. Under the agreement between the Tata Iron and Steel Company and the Indian Iron and Steel Company, the former is entitled to sell basic iron with a silicon content up to 1·25 per cent. at a price of Rs. 30 per ton to small founders in the bazaar. In conjunction with this, the Indian Iron and Steel Company arranges for the sale to the bazaar of sand cast foundry iron at a price slightly lower than machine cast iron. Basic iron is unsuitable for the manufacture of castings unless it is mixed with good foundry iron scrap. The contention of pig iron manufacturers is that such scrap is available in sufficient quantities and that it mixes well with basic iron and produces castings suitable for the bazaar. The Tata Iron and Steel Company has further informed us that it is prepared to supply suitable iron to the smaller foundries at the same price as basic iron "if a genuine demand arises and it is clear that basic iron cannot satisfactorily be used". So far as we are aware no sales have hitherto been made under this provision.

Difficulties of Indian Iron and Steel Company.

244. Throughout our examination of this question, we have kept in view the difficult position in which the Indian Iron and Steel Company is placed. It produces only pig iron and depends for the bulk of its market on exports. These have declined seriously in recent years as regards both prices and quantities exported. The Company must therefore try to obtain the best prices it can in the Indian market in order to avoid closing down altogether. The largest of its purchasers in India obtain supplies at contract rates independently of market conditions. The price of pig iron supplied to railways for the manufacture of sleepers is also fixed by contract, the rates being calculated primarily with a view to maintaining output. The remainder of the market in which the Company is free to vary prices amounts to 18 per cent. of the Indian market and to less than 5 per cent. of the total market. The average quantity sold in this market during the past three years is approximately 11,000 tons a year. If the price of foundry iron in this free market were reduced to Rs. 30 per ton, the annual loss to the Company would be not less than 2 lakhs of rupees which, in its present financial position, would probably result in the closing down of the Company's works. The Tata Iron and Steel Company is primarily interested in the production of basic iron of which the surplus available will be reduced progressively as the output of steel increases. The closing down of the Indian Iron and Steel Company's

works would therefore result in Indian foundries and other purchasers being compelled to import their supplies of foundry iron. If this happens, the price of foundry iron in India will be 25 to 30 per cent. higher than the existing prices.

Board's proposal.

245. It is clear from this analysis that any drastic proposals for a general lowering of the prices of foundry iron in the free market available in India will benefit neither the Indian Iron and Steel Company nor the Indian foundries. At the same time we think that an adjustment of prices designed to relieve the smaller Indian foundries from their present difficulties is necessary, and that within limits, such adjustment is practicable without any serious financial embarrassment to the Company. We have pointed out that the prices now charged for foundry iron supplied to railway workshops and engineering firms do not affect them in the same way as Indian foundries making castings for sale. A reasonable case may therefore be made out for treating these foundries differently from railway workshops and engineering firms who manufacture mainly for their own requirements. Not all Indian foundries, however, will require good quality foundry iron for their castings. Basic iron and off grade iron of the kinds now supplied to the bazaar will sufficiently meet the requirements of most Indian foundries. In the case of such of them as require good quality iron, we suggest that provision should be made for supplying foundry iron at prices not different from those charged to the associated companies and not exceeding export prices by a margin of more than Rs. 10 per ton. The losses under such an arrangement to the Indian Iron and Steel Company will be inconsiderable. We recognise the special reasons which justify the rates now quoted to the associated companies. But when these companies compete in the market with other foundries which obtain their material at substantially higher rates, the competition is essentially of the same character as that which prevails in fabricated steel between Indian fabricators and foreign integrated concerns. Messrs. Burn and Company, who are the Managing Agents of the Indian Iron and Steel Company, and the Tata Iron and Steel Company have both protested to us strongly against this competition in fabricated steel. They cannot consistently adopt a different attitude in the present case. The proposal of the Tata Iron and Steel Company that it will arrange to sell foundry iron at lower prices if in its opinion a genuine demand arises and if basic iron cannot be used satisfactorily is one which Indian foundries cannot reasonably be asked to accept. We suggest that such supplies should be made available on a certificate from an independent authority that the demand is a genuine one and not for the purpose of resale in the market. Since most of the foundries in question are located in Bengal and Bihar, we consider that the Director of Industries in each province will be the most suitable authority for the issue of such certificates. An arrangement on these lines will, we believe, go a long way towards removing the legitimate grievances of Indian foundries.

Export of iron castings.

246. The Tatanagar Iron Foundry has represented to us the possibility of Indian foundries undertaking the manufacture of certain classes of cast iron products for which there is a growing export market In order to enable Indian foundries to compete in this market it is proposed that the foundry iron required for this purpose should be supplied by Indian manufacturers of pig iron at a price not exceeding the average price at which pig iron is exported from India. This is a reasonable proposal which we hope will be accepted by manufacturers of pig iron. The Tatanagar Iron Foundry has also asked that a bounty should be granted to Indian foundries on their exports of iron castings, partly on the ground that the Indian demand for pig iron will thus be stimulated. The development of the Indian market for pig iron is a matter of such great importance that any measures calculated to serve this object deserve consideration. Whether the export of iron castings from India on any considerable scale is possible is, however, still a matter for investigation. Till its possibilities have been fully explored, it is premature to consider whether and if so how far public assistance will be justified. We have therefore no recommendations to make regarding this proposal.

III.—The Mysore Iron Works.

Manfacture of iron and iron castings at Bhadravati.

247. The Mysore Iron Works owned by the Government of His Highness the Maharaja of Mysore, have forwarded to us a detailed representation asking for protection for the manufacture of iron and steel products in which they are interested. The three classes of products for which protection is asked are pig iron, cast iron pipes and steel bars and light structurals. As far as pig iron is concerned, the quantities imported into India have been so inconsiderable that no case can be established for a protective duty. The imports during 1930-31, 1931-32, and 1932-33 were 3,083, 380 and 746 tons respectively. Practically the whole of these were imported from the United Kingdom and represented pig iron of special quality not obtainable in India. As regards cast iron pipes, we have already discussed the case for protection and stated our proposals regarding it. The duty estimated by us on a comparison of the Indian fair selling price with current Japanese prices is Rs. 57-8 per ton while the Mysore Iron Works have claimed a duty of Rs. 77 on imports from Japan. The difference between the two rates is almost entirely due to the fact that the fair selling price estimated by us is based on the costs of a pipe foundry using ordinary coke iron. The Mysore costs are based on the use of charcoal which per ton of pig iron costs about Rs. 27 against Rs. 8 to Rs. 9 for coke per ton of iron in Bengal and Bihar. In view of the fact that the capacity of the Mysore Iron Works for the production of pipes is not more than 20 per cent. of the total Indian capacity, we do not feel justified in basing our proposal on the specially high costs at the Mysore Iron Works.

Proposed steel plant at Bhadravati.

248. The Government of Mysore have now under consideration the installation of a steel plant in connection with the Mysore Iron Works so as to provide an increased outlet for pig iron. During the three years ending March, 1933, the average annual output of iron was approximately 14,000 tons against a rated capacity of 28,000 tons. The object of erecting a steel plant is primarily to raise the output of pig iron to the rated capacity so as to reduce overhead and other standing charges. The total capacity of the proposed steel plant is 20,000 tons of finished steel corresponding to 23,000 tons of ingots or 25,500 tons of metallic charge. It is estimated that approximately 13,500 tons of the metallic charge would be pig iron and the rest steel scrap. Allowing for the scrap recoverable within the works, the quantity of scrap to be purchased is estimated at 8,000 tons. Deducting from the rated capacity of pig iron the quantity used in the steel plant, the balance available will be 14,500 tons. It is expected that there will be a normal market for 8,000 tons of cast iron pipes, 7,000 tons of pig iron including exports and about 1,000 tons of general castings. Allowing for loss of metal in the foundries, production against this normal market will involve a total consumption in the works of 16,500 tons of pig iron. This is 2,000 tons in excess of the balance available if the steel plant is worked to capacity. It is expected that the deficiency may be made up by the use of cast iron scrap in the foundries.

Estimated costs and realised prices.

249. The proposed steel plant is to consist of an open hearth furnace and a rolling mill, the idea being to cast ingots sufficiently small to be passed direct into a small rolling mill and thus avoid the necessity of a blooming mill. The plant is estimated to cost Rs 20 lakhs including provision for accessories and miscellaneous expenditure. On the estimates furnished by the Consulting experts, the works cost on full output is expected to be Rs. 85 per ton of bars and light structurals. Taking the total capitalisation represented by the fixed assets of the Mysore Iron Works including the proposed steel plant at Rs. 150 lakhs and working capital at Rs. 20 lakhs, and taking depreciation, interest on working capital and profit each at 4 per cent., the overhead charges and profit per ton of finished steel are fixed at Rs. 41. The fair selling price *ex*-works is thus Rs. 126 per ton. We have proposed a duty of Rs. 43 on untested structurals and Rs. 39 on untested bars. On the consumption figures of 1932-33, the average of the proposed duties per ton of structurals and bars may be taken at Rs. 41. Since it may be assumed that no tested materials will be produced at the Mysore Iron Works, their steel products consisting entirely of bars and light structurals will receive protection to the extent of Rs. 41 per ton under our proposals. We have taken the landed prices without duty of untested structurals at Rs. 64 and untested bars at Rs. 67 which work out at an average of Rs. 65 per ton of bars and structurals. Since c.i.f. prices and landing charges in Madras are generally a few rupees

higher than in Calcutta and Bombay, we may assume an average landed duty-free price of Rs. 70 for Continental structurals and bars in Madras. The Mysore Iron Works estimate an average freight advantage in their market of Rs. 6 per ton as compared with imports. On these figures the realised price with duty at Rs. 41 may be taken at Rs. 117 (Rs. 70+Rs. 6+Rs. 41). This is short of the estimated fair selling price by Rs. 9. In other words, with a duty of Rs. 41, the Mysore Iron Works will cover their works cost, depreciation and interest on working capital and obtain a return of about 2 per cent. on the total capital allocated to steel.

Assumptions underlying above estimates.

250. This, however, implies that the assumptions underlying these estimates will be fully realised. The most important of these assumptions are the following:—

(*a*) That the market assumed by the Mysore Iron Works is not captured to any substantial extent by the Tata Iron and Steel Company or by re-rolling mills.

(*b*) That the plant will be worked to full capacity.

(*c*) That the estimates of conversion costs will be realised fully.

(*d*) That steel scrap can be bought at the price and up to the quantity estimated.

(*e*) That pig iron, cast iron products, and bye-products can be sold at the prices and in the quantities estimated.

Competition of Tatanagar Companies in Mysore market.

251. Of these the most vital assumption is (*a*). Unless the market assumed by the works is secured, the plant cannot be worked to capacity and the estimated conversion costs and overhead charges will not be realised. Assumptions (*a*), (*b*) and (*c*) thus hang together. The market assumed by the works comprises roughly the Madras Presidency up to Bezwada, barring the coastal area measured by about 50 to 100 miles from the sea, the Mysore State and the Southern Mahratta country. On an examination of the figures of imports into Madras ports during the past three years and the figures collected by the Mysore Iron Works from railway returns and by direct investigation, we estimate that on the average of the past three years the consumption in this market of structural sections and of bars of all sizes is approximately 40,000 tons a year. Besides the Mysore Iron Works, there are three possible sources in India from which this market may be supplied, namely, the Tata Iron and Steel Company, the Indian Steel and Wire Products which will shortly roll small bars on its rod mill and the proposed re-rolling mill at Negapatam. The first and second are both located at Tatanagar and may be considered together. The freight from Tatanagar to Madras is approximately Rs. 15 per ton. In the interior of the market assumed by the Mysore Iron Works, the freight from Tatanagar is considerably higher. The average of the fair selling prices estimated by us for bars and

structurals for the Tata Company f.o.r. works is Rs. 97. Unless the average freight to the Mysore market is below Rs. 20, the Tata Company will not recover its fair selling price if it sells at less than Rs. 117. The position will not be materially different in the case of the Indian Steel and Wire Products. It is of course not in the least improbable that the Tatanagar Companies may sell in this area at considerably less than their fair selling price in view of the surplus obtained by them in their freight advantage areas. If this happens, the position of the Mysore Iron Works will be rendered more difficult. As between the Mysore Iron Works and the Tatanagar Companies, the whole problem resolves itself into this—whether the increased cost of steel due to the employment of charcoal iron can be offset by the freight advantage enjoyed by the Mysore Works in this area. The excess cost on account of the use of charcoal iron will not be less than Rs. 20 per ton of steel. This excess cost will handicap the Mysore Works in proportion as the freight from Tatanagar falls below this figure or the Tatanagar Companies cut prices so as to meet their freight disadvantage in this market. A realised price of Rs. 117 for the Mysore Iron Works includes a profit of 2 per cent. on the capital allocated to steel. If the works decide to forego profit altogether, they can reduce prices further to meet competition by about Rs. 10 per ton.

252. The position of the works will be distinctly more difficult in relation to a re-rolling mill in South India. Under our proposals, for reasons explained elsewhere, billets will be entirely free from duty. We have assumed a current price of Rs. 64 without duty for imported billets. The price in Madras corresponding to this will be approximately Rs. 69. On our estimates of the cost of wire rod and sections on the rod mill of the Indian Steel and Wire Products, the fair selling price f.o.r. works for a re-rolling mill will be as follows:—

Competition of re-rolling mills.

TABLE LV.

	Rs.
Billet	69
Wastage	7
Conversion	23
Depreciation, Interest, Profit, etc.	7
	106
Less credit for scrap	2
	104

This will give the re-rolling mill a substantial advantage over the Mysore Iron Works at least in that part of the market which covers the southern districts of the Madras Presidency. The total capacity of the proposed re-rolling mill at Negapatam is about 10,000 tons on a single shift and about 20,000 tons on two shifts.

If it can be assumed that on account of freight disadvantage, the Tatanagar Companies will not capture more than 5,000 tons in this market, an arrangement on a geographical basis between the Mysore Iron Works and the re-rolling mill may safeguard the interests of both.

Difficulties regarding steel scrap.

253. Assumptions (*d*) and (*e*) may be discussed briefly. The prices and quantities assumed in the estimates for the sale of products other than steel appear to be reasonable, regard being had to present conditions. The question of scrap, however, may present difficulties. The estimates assume that steel scrap up to 8,000 tons may be bought at a price of Rs. 27 per ton delivered at Bhadravati. The main sources of supply are the railway workshops. We have been supplied by the principal railways in India with detailed statements of their sales of steel scrap during the past three years. On the average prices realised for inferior classes of scrap, by the South Indian Railway, the Madras and Southern Mahratta Railway and the Great Indian Peninsula Railway, we think that the prices delivered at Bhadravati may be somewhat higher than the works have assumed. Also the quantities available in recent years have been such that a continuous supply on a sufficient scale may prove difficult. Since the supply of steel scrap from outside sources is an essential part of the Bhadravati steel scheme, these matters require careful investigation.

Capitalisation of Mysore compared with other iron works.

254. There are two fundamental difficulties which confront the Mysore Iron Works and render their position less favourable now than when the Tariff Board reported in 1929. The first is that for all practical purposes it may now be assumed that there is no market in India for charcoal iron as such and that it must be sold in competition with ordinary coke iron. The second is that the world market for wood distillation products has suffered so serious a decline, due mainly to permanent causes, that there is little hope of making up the high cost of charcoal iron by the sale of bye-products. These difficulties must be frankly faced. If the position is accepted that the Mysore Iron Works have no peculiar value apart from that possessed by other pig iron works in India, any estimate of fair selling prices for the Mysore Works must be based on capital charges comparable with those of other pig iron works. The capital cost of the Mysore Works was reduced by about 50 per cent. in 1929. With later additions and improvements it now stands at about Rs. 130 lakhs. The total block of the Indian Iron and Steel Company which probably possesses the most efficient coke iron plant in India is at present about Rs. 270 lakhs without taking into account the depreciation already set aside. The annual capacity of the Indian Iron and Steel Company is 450,000 tons of pig iron against a capacity of 28,000 tons in the case of the Mysore Iron Works. On these figures the capital outlay required to produce a ton of iron at the Indian Iron and Steel Company's works is far lower than at the Mysore Works. We do not assume that a small works producing only 28,000 tons

can be built at a capital cost proportionate to that of a larger works. But on the basis that charcoal iron has no higher value than coke iron and that wood distillation bye-products confer no greater advantages than coke oven bye-products, it is clear that the capitalisation of the Mysore Iron Works is much in excess of the true commercial value of the Works.

Capital value estimated on commercial basis.

255. The following table shows the works costs estimated by the Mysore Iron Works on full production as compared with the market prices at the rates of duty proposed by us:—

	Per ton.	
	Works cost.	Market price.
Pig iron	38	45 (i)
Cast iron pipes	102	130 (ii)
Steel bars and sections	85	111 (iii)

The margin available to meet capital charges is as follows:—

	Per ton.
	Rs.
Pig iron	7
Cast iron pipes	28
Steel bars and sections	26

With the estimated outturn of 7,000 tons of pig iron (for the market), 8,000 tons of pipes and 20,000 tons of steel, the total sum available to meet overhead charges and profit will be Rs. 7,93,000. If allowance is made for the surplus which may be realised on general castings and bye-products, a sum of approximately Rs. 8½ lakhs to Rs. 9 lakhs will be available to meet capital charges. Deducting interest on working capital at Rs. 80,000, there will be a balance of about Rs. 8 lakhs to meet depreciation and profit. If these are taken at 4 per cent. each, the capital valuation cannot be fixed higher than Rs. 100 lakhs if a commercial return is to be expected. Deducting Rs. 20 lakhs from this on account of the steel plant and Rs. 25 lakhs for the pipe and general foundry, we arrive at a capital valuation of Rs. 55 lakhs for the rest of the works. This corresponds to about Rs. 200 per ton of pig iron against Rs. 60 for the Indian Iron and Steel Company. On the assumption that from a commercial point of view the two works are similar, the capital value of the Mysore Iron Works, allowing for the smaller output, cannot be fixed at a higher figure than this.

(i) Average price of pig iron realised by the Mysore Iron Works in 1932-33 at revenue duty.

(ii) Landed price of Japanese pipes (Rs. 72·5) *plus* duty at Rs. 57·5.

(iii) Landed price of Continental bars and structurals (Rs. 70) *plus* duty at average rate of Rs. 41.

PART IV.

CHAPTERS XIII AND XIV.

Proposals Summarised.

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CHAPTER XIII.

Summary of Findings and Proposals.

ROLLED STEEL.

1. The review of the present scheme of protection given in Chapter II of the report shows that in spite of the great falling off in the demand for steel products the industry made very substantial progress, maintaining its output and greatly reducing its costs of production. The share of the available Indian market obtained by the Tata Company rose from 30 per cent. in 1927-28 to 72 per cent. in 1932-33.

2. The realisations of the Company fell short of anticipations for several reasons—

(i) fall in prices,
(ii) increased freight charges to more distant markets,
(iii) failure of anticipated demand from railways and engineering firms (the average output of steel anticipated was 500,000 tons: the actual output in six years averaged 404,000 tons per annum),
(iv) the strike,
(v) the 'lag' between realised prices and import prices *plus* duty.

Of these the strike had the greatest effect, the loss amounting in six years to 3 per cent. per annum out of the 8 per cent. allowed as manufacturer's profit. The profit actually earned by the Company during the period amounted to an average of about 2¼ per cent. per annum. During the period the Company was in addition able to set aside Rs. 400 lakhs to the depreciation fund, of which Rs. 302 lakhs were spent on capital improvements or replacements of plant. In view of these facts we cannot accept the contention of the Company that the scheme of protection has failed.

3. Protection has been responsible for the growth of a rerolling industry which we recommend should be encouraged. We examine the complaints made against the 'monopolistic' attitude of the Tata Company towards subsidiary industries and conclude that some of them are not without foundation.

4. The Ottawa Agreement has been successful and beneficial as regards pig iron. The agreement regarding galvanized sheets has now served its purpose, and its renewal in its present form is impracticable.

5. Chapter III contains a detailed examination of present and future works costs. The substantial reductions in costs anticipated by the Board in 1926 have in almost every instance been fully realised. Even allowing for the remarkable fall in the prices of coal and spelter the costs of production are lower than anticipated

except in the case of rails and fishplates. The only really inefficient part of the plant is the open hearth department. We believe that costs will be still further reduced by the proposed capital improvements and by the anticipated increase of output, and have set out what we consider can be taken as the future average cost of manufacture per ton of each product. We have added to this an allowance for increased railway freights based on such information as is available to us at the time of submitting the report. On these costs we base our recommendations for protective duties.

6. In Chapter IV we examine the capital charges of the Company and explain our method of valuation of fixed assets. All the evidence we have received leads us to confirm the valuation of the property at Rs. 12½ crores. We confirm also the percentage of depreciation at 6¼ per cent.: and give reasons for calculating this on the full replacement value of the property. We consider in detail the use to be made of the depreciation fund and subject to certain reservations approve of its employment on capital replacements and extensions. We reduce the interest to be allowed on working capital from 7 to 6 per cent. on the cost of six months production. Manufacturer's profit we continue at 8 per cent. on the valuation of the fixed assets.

7. In Chapter V we deal with the amount of protection required. Having added to the costs of production the overhead and capital charges we determine the fair selling price f.o.r. Tatanagar. To this price we add allowances for freight disadvantage, selling expenses and the lag between import and realised prices and thus arrive at a fair selling price which is comparable with the landed prices of imported goods. We examine the evidence for determining these landed prices and propose the continuance of the present scheme of differential duties. This scheme has proved easy to work, and has given rise to no complaint. Table XXIV gives the duties recommended by us and compares them with the existing specific duties and those recommended by the Board in 1926. We repeat the Table here for convenience of reference:—

	Duties recommended by the Board in 1926.	Existing specific duties.	Present estimated duties.
	Rs.	Rs.	Rs.
	per ton.	per ton.	per ton.
Rails	13	16¼	*Nil*
Fishplates	6	7½	*Nil*
Structurals—			
(1) United Kingdom (tested)	19	23¾	*Nil*
(2) Continental (untested)	30	37½	43
Bars—			
(1) United Kingdom (tested)	26	32½	10
(2) Continental (untested)	37	46¼	39
Plates—			
(1) United Kingdom (tested)	20	25	*Nil*
(2) Continental (untested)	36	45	25

	Duties recommended by the Board in 1926. Rs. per ton.	Existing specific duties. Rs. per ton.	Present estimated duties. Rs. per ton.
Black sheets—			
(1) United Kingdom (tested) .	35	43¾	11
(2) Continental (untested) .	59	73¾	32
Galvanised sheets—			
(1) United Kingdom . .	38	53	10
(2) Continental	38	83	40
Sleepers	10	12½	*Nil*

We also examine in this Chapter the comparative natural advantages of the steel industry in India and in other countries and conclude that the need for protection will disappear when economic prices are quoted by Continental competitors. Meanwhile we consider it justifiable to include in the fair selling price allowances for normal depreciation and profit.

8. In Chapter VI we deal with the scheme of protection and recommend an agreement between the Railway Board and the Indian Steel Industry for the supply of all rails and fishplates. We recommend that the protective duties shall be specific and not *ad valorem*. The duties recommended by us on British galvanized sheets are partly of a preferential character. In return we consider that India may claim the continuance of the preferential treatment now accorded to Indian pig iron in the United Kingdom. We propose to include in the scheme of protection a provision for off-setting duties, under which the Government will have authority to raise or lower the duties as occasion arises on account of changes in import prices or the manufacturing and transportation costs of the Indian industry. We recommend that the scheme of protection shall continue in force until 31st March, 1941. Except fabricated steel imported from the United Kingdom we intend this recommendation to cover all iron and steel products included in the scheme of protection. We suggest that the revenue duties should be removed on tested structurals, tested plates and also billets for re-rolling in order to assist the subsidiary industries using these as their raw material.

9. Chapter VII contains a detailed examination of the technical equipment and efficiency of the plant in the Jamshedpur works and concludes that with the replacement of the open hearth furnaces by more modern plant and the completion of the proposed capital improvements the works will be able to stand comparison with any works of similar age and capacity elsewhere.

10. In Chapter VIII we have given a description of the main activities of the Tata Company outside of the works proper, the estate management and the welfare of labour, and have examined the various criticisms of the Company's expenditure under these heads. We conclude that the expenditure is justified and is a legitimate burden on the works costs. We find that since the

Board's last enquiry satisfactory progress has been made in housing, medical relief, education and technical training, welfare activities and Indianisation of the staff.

FABRICATED STEEL.

11. The protective duty consists of two parts, one intended to compensate for the increased cost of steel due to the protective duty on steel, the other to afford substantive protection. Since no protective duties are recommended on tested structurals and plates no compensating duty is required on British imports. A duty of Rs. 40 per ton is necessary on imports from other countries.

12. The capacity of the fabricating industry is now in excess of the consumption. Imports are negligible and substantive protection is obviously unnecessary.

13. The development of the industry will depend on the extent to which it is possible to stimulate demand. We consider that this will be assisted by the reduction in costs consequent on the lower duties on rolled steel. We also lay stress on the desirability of pushing on with schemes of capital development particularly in the railways.

14. We recommend the re-organisation of the industry on the lines of specialisation and standardisation and suggest that the Indian Stores Department may help in this matter.

15. Taking bridgework as typical of the industry we have been impressed by the unfair competition of integrated firms in the United Kingdom and estimate that the duty required to prevent this amounts to Rs. 40 a ton equal to the compensating duty on imports from countries other than the United Kingdom. Should the danger disappear by agreement, the Government of India will be able to reduce the duty to the revenue level. For the time being we recommend a duty of Rs. 40 on imports of fabricated steel from all countries.

16. In regard to the proposed Howrah bridge we are satisfied that suitable high tensile steel can be manufactured in India. Every effort should be made to use the resources of the country in a large undertaking of this description provided that the cost of the undertaking is not thereby increased beyond the extent ordinarily admitted under the Stores Purchase Rules.

17. In the matter of steel towers for the transmission of electricity, we consider that no increase over the present revenue duty is necessary.

18. On other special classes of fabricated steel, *viz.*, pressed steel tanks, structural parts of cranes, canal gates and regulators and sugar machinery we find that beyond the protection they will receive, if any, as fabricated steel, no protection is necessary other than the reduction we have proposed in the duties on tested steel. The present Customs classification will therefore remain unchanged.

19. In regard to wagons and underframes we are satisfied with the present policy of the Railway Board to place all orders in India up to the capacity of the Indian manufacturers.

20. We recommend protective duties as follow on commercial bolts and nuts, rivets, fishbolts and nuts and dogspikes, gibs, cotters and other railway material:—

	United Kingdom.	Non-United Kingdom.
	Per cwt.	Per cwt.
	Rs. A. P.	Rs. A. P.
Commercial bolts and nuts	*Nil*	1 9 0
Rivets	*Nil*	1 14 0
Fishbolts and nuts	*Nil*	4 5 0
Dogspikes, gibs, cotters, keys and other railway material	0 7 0	2 15 0

21. We are unable to accept the application of the enamel factories for exemption from duty on the sheets used by them. But we believe that the substantial reduction in the duty on black sheets proposed by us will meet the requirements of this industry.

TINPLATE.

22. The progress of the industry since the report of 1926 is reviewed and the opinion given that no industry has made better use of its opportunities under protection.

23. Although the price of tinplate anticipated in 1926 was never reached the fall was accompanied by a drop in the price of materials. The gross surplus of realizations above costs amounted during the protection period to nearly Rs. 95 lakhs, Rs. 91½ lakhs being the estimate of the Board. The industry was helped by the surcharge imposed on Customs duties since 1931 which acted as additional protection.

24. A capital reconstruction of the Company took place in 1927-29 which reduced the liabilities by Rs. 105 lakhs. Debenture debt is being paid off rapidly, and should be extinguished within four years. This operation is however being financed from the depreciation fund and it is suggested that in future more of the surplus should be set aside for expenditure on the works.

25. On a review of the costs of the industry and of import prices we arrive at a duty of Rs. 38 per ton on tinplate imported from the United Kingdom and Rs. 59 from other countries.

WIRE AND WIRE NAILS.

26. The Indian Steel and Wire Products Company of Tatanagar has now established a rolling mill, which will have a maximum capacity of 45,000 tons per annum. In addition to 12,000 tons of wire and nails the works will produce about 30,000 tons of small bars and sections.

27. The normal consumption in India of wire and nails is 28,000 tons a year; and in Bengal about 10,000 tons. Of small bars and sections we estimate the normal consumption at about 70,000 tons and in Bengal about 20,000 tons. There is therefore a sufficient market for the industry.

28. We assume that the Tata Company will supply billets to the industry at Rs. 64 a ton, and estimate the fair selling price on this basis.

29. We recommend for wire rod, small bars and sections the same duties that we have fixed for bars of the classes already protected, *viz.*, Rs. 10 on imports from the United Kingdom and Rs. 39 on imports from other countries.

30. We recommend the same duty on both wire and wire nails, *viz.*, Rs. 25 on imports from the United Kingdom and Rs. 60 on those from other countries.

31. The severest competition on wire products is being experienced from Japan and we propose that dumping prices lower than those we have assumed in determining the duty should be dealt with by the operation of the provision for off-setting duties.

32. We propose that the protective duties on wire and wire nails should be confined to those classes which are already protected. Wire used for fencing will continue to be exempt from the protective duty.

33. The Karachi firm of Messrs. Devidas Jethanand shows production costs much higher than those of the Tatanagar Company and we have been unable to base any recommendation on them. We propose that this firm and the Indian Hume Pipe Company which draws wire for its manufacture of pipes shall be permitted as at present to import wire rod free of duty for a period of 2 years subject to a maximum of 1,500 tons and 500 tons a year respectively.

34. We are unable to recommend protection of the manufacture of screws.

IRON AND IRON PRODUCTS.

35. In Chapter XII the application from the Bengal Iron Company and the Mysore Iron Works for protection of cast iron pipes is first examined. If we accept the demand of the year 1922-23 as normal (50,000 tons per annum) the combined manufacturing capacity of the 2 works is 25,000 tons more than the demand (Bengal Iron Company 60,000, Mysore Iron Works 15,000 tons). Protection is therefore required not for development, but against the abnormal competition of Japan.

36. No duty is required on imports of cast iron pipes from the United Kingdom; a duty of Rs. 57-8-0 a ton is recommended on imports from other countries.

37. We are unable to accept the claim that a protective duty should be put on steel pipes and asbestos pipes.

38. We discuss the question of the price of pig iron in India and come to the conclusion that the average difference which amounts to about Rs. 10 a ton between the export and internal prices of pig iron is justified. As regards the price of foundry iron it is true that the internal price is considerably less than could be obtained under ordinary competitive conditions. But we find that the conditions under which iron is supplied to associated Companies for the manufacture of general castings, leads to some discrimination against small Indian foundries which compete in the same market, and the low export price may possibly lead to

competition from Japan. We therefore suggest that arrangements should be made to supply foundry iron to Indian foundries that require good quality iron at prices not higher than those charged to the associated companies and not exceeding export prices by more than Rs. 10 a ton.

39. We recommend that the manufacturers of pig iron should supply iron to foundries that wish to compete in the export market for cast iron products at a price not exceeding the average export price. But we think it premature to consider the grant of a bounty on such exports.

40. The Mysore Iron Works can produce only 20 per cent. of the Indian capacity for cast iron pipes; and we have consequently not been able to base our recommendation for protection on their costs of production, which are enhanced from the outset by the greater cost of charcoal as compared with coke per ton of iron produced.

The works are proposing to erect a steel plant at a cost of Rs. 20 lakhs with a maximum capacity of 20,000 tons which it is hoped will enable them to reduce the heavy capital and overhead charges on pig iron. We have examined the prospects of this enterprise and have arrived at the following findings:—

(*a*) In meeting competition from the Tatanagar Companies Mysore can only succeed to the extent to which its freight advantage in its local market exceeds its handicap of Rs. 20 excess in the cost of steel, unless profit is foregone.

(*b*) The re-rolling mill to be started at Negapatam will have a substantial advantage in the southern part of the market.

(*c*) It appears doubtful whether the works will be able to obtain all the scrap they require at the prices they estimate.

(*d*) It must be accepted that charcoal iron has now no special market in India, and must be sold in competition with other pig iron.

(*e*) The market for wood distillation products has now declined to such an extent that their production will confer no special advantages.

(*f*) This being so any estimate of the capital value of the Mysore Works must be based on that of other pig iron works in India. At present the capital valuation of the Mysore Works averaged per ton of pig iron is several times higher than that of the Indian Iron and Steel Company.

(*g*) Working on this basis and allowing for the smaller output of the Mysore Works, we could not value the works excluding the pipe and general foundry and the proposed steel plant at more than Rs. 55 lakhs as a commercial proposition, even allowing the low rate of 4 per cent. for depreciation and profit.

CHAPTER XIV.

Proposed Tariff Schedule.

(The Serial Nos. correspond to those in the first column of the present Indian Customs Tariff published by the Department of Commercial Intelligence and Statistics.)

Serial No.	Names of Articles.	Duty.
75	Coal tubs, tipping wagons and the like conveyances designed for use on light rail track, if adapted to be worked by manual or animal labour and if made mainly of iron or steel; and component parts thereof made of iron or steel—	
	(*a*) of British manufacture	Revenue duty.
	(*b*) not of British manufacture . . .	Rs. 40 per ton or revenue duty whichever is higher.
101*f*	Iron, pig	Revenue duty.
101*a*	Iron alloys, namely, ferro-manganese, ferro-silicon, ferro-chrome, spiegeleisen and the like as commonly used for steel making.	Revenue duty.
102*g*	(i) Steel ingots	Revenue duty.
	(ii) Iron or steel blooms, billets and slabs, provided that no piece less than 1½ inches square or thick shall be included in this item.	Revenue duty.

NOTE.—For the purpose of classification under the tariff all pieces of iron or steel of uniform thickness and width [other than iron or steel included in No. 102*g* (ii)] shall be considered as being covered by the relevant description in the third column of the table below, according to the thickness and width in the first and second columns:—

TABLE.

Thickness.	Width.	Description.
1. Less than ⅛″	Not greater than 5″ .	Hoop or strip.
2. Ditto	Greater than 5″ . .	Sheet.
3. Not less than ⅛″ but less than 3/16″.	Not greater than 5″ .	Hoop or strip.
4. Ditto	Greater than 5″ . .	Plate.
5. Not less than 3/16″ and not greater than 1½″.	Less than 5″ . .	Bar.
6. Ditto	Not less than 5″ and not greater than 18″.	Flat.
7. Ditto	Greater than 18″ . .	Plate.
8. Greater than 1½″ . . .	Not greater than 18″ .	Bar.
9. Ditto	Greater than 18″ . .	Plate.

Flat pieces of iron or steel of uniform thickness but not of uniform width and discs and circles shall be considered as covered by the description

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'plates' if the thickness is ⅛″ or more; and by the description 'sheets' if the thickness is less than ⅛″.

Serial No.	Names of Articles.	Duty.
101*b* 101*c* 102*a* 102*b*	Iron or steel angle, channel, tee, flat, beam, zed, trough and piling—	
	(*a*) not fabricated—	
	(i) of British manufacture—	
	not coated with other metals .	Free.
	coated with other metals . .	Revenue duty.
	(ii) not of British manufacture . .	Rs. 43 per ton or revenue duty whichever is higher.
	(*b*) fabricated—	
	(i) of British manufacture . . .	Rs. 40 per ton or revenue duty whichever is higher.
	(ii) not of British manufacture . .	Rs. 40 per ton or revenue duty whichever is higher.
101*d* 101*e* 102*c* 102*d*	Iron or steel bar and rod—	
	(i) of British manufacture	Rs. 10 per ton or revenue duty whichever is higher.
	(ii) not of British manufacture . . .	Rs. 39 per ton or revenue duty whichever is higher.
103*i*	Cast iron plates	Revenue duty.
103*j*	Iron or steel plates, excluding cast iron plates—	
	(*a*) not fabricated—	
	(i) of British manufacture—	
	not coated with other metals .	Free.
	coated with other metals .	Revenue duty.
	(ii) not of British manufacture . .	Rs. 25 per ton or revenue duty whichever is higher.
	(*b*) fabricated—	
	(i) of British manufacture . . .	Rs. 40 per ton or revenue duty whichever is higher.
	(ii) not of British manufacture . .	Rs. 40 per ton or revenue duty whichever is higher.
103*k* 103*l*	Iron or steel sheets—	
	(*a*) not fabricated—	
	(1) not galvanised—	
	(i) of British manufacture .	Rs. 11 per ton or revenue duty whichever is higher.
	(ii) not of British manufacture .	Rs. 32 per ton or revenue duty whichever is higher.
	(2) galvanized—	
	(i) of British manufacture .	Rs. 10 per ton or revenue duty whichever is higher.
	(ii) not of British manufacture .	Rs. 40 per ton or revenue duty whichever is higher.
	(*b*) fabricated—	
	(1) not galvanized—	
	(i) of British manufacture .	Rs. 12 per ton or revenue duty whichever is higher.
	(ii) not of British manufacture .	Rs. 35 per ton or revenue duty whichever is higher.

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Serial No.	Names of Articles.	Duty.
103*k* 103*l*	Iron or steel sheets—*contd.* (*b*) fabricated—*contd.* (2) galvanized— (i) of British manufacture	Rs. 11 per ton or revenue duty whichever is higher.
	(ii) not of British manufacture	Rs. 44 per ton or revenue duty whichever is higher.
102*h*	Iron or steel structures, fabricated partially or wholly, not otherwise specified, if made mainly or wholly of iron or steel bars, sections, plates or sheets, for the construction of buildings, bridges, tanks, well curbs, trestles, towers and similar structures or for parts thereof, but not including builders' hardware (see Serial No. 84A) or any of the articles specified in Serial Nos. 75A, 76B, 77, 96, 99, or 159—	
	(i) of British manufacture	Rs. 40 per ton or revenue duty whichever is higher.
	(ii) not of British manufacture	Rs. 40 per ton or revenue duty whichever is higher.
103*i*	Iron or steel, the original material (but not including machinery) of any ship or other vessel intended for inland or harbour navigation which has been assembled abroad, taken to pieces and shipped for reassembly in India:— Provided that articles dutiable under this item shall not be deemed to be dutiable under any other item—	
	(i) of British manufacture	Revenue duty.
	(ii) not of British manufacture	Rs. 27-8-0 per ton or revenue duty whichever is higher.
103*g*	Iron or steel pipes and tubes and fittings therefor, if riveted or otherwise built up of plates or sheets—	
	(i) of British manufacture	Rs. 12 per ton or revenue duty whichever is higher.
	(ii) not of British manufacture	Rs. 35 per ton or revenue duty whichever is higher.
103*gg*	Cast Iron pipes and tubes: also cast iron fittings therefor, that is to say, bends, boots, elbows, tees, sockets, flanges, plugs, valves, cocks and the like—	
	(i) of British manufacture	Revenue duty.
	(ii) not of British manufacture	Rs. 57-8-0 per ton or revenue duty whichever is higher.
103*h*	Iron or steel pipes and tubes; also fittings therefor, that is to say, bends, boots, elbows, tees, sockets, flanges, plugs, valves, cocks and the like, excluding pipes, tubes and fittings therefor otherwise specified.	Revenue duty.
103*d*	Iron or steel hoops or strips	Revenue duty.
102*i*	Steel, tinplates and tinned sheets including tin taggers and cuttings of such plates, sheets or taggers—	
	(i) of British manufacture	Rs. 38 per ton or revenue duty whichever is higher.
	(ii) Not of British manufacture	Rs. 59 per ton or revenue duty whichever is higher.

Serial No.	Names of Articles.	Duty.
103*s*	Iron or steel (other than bar or rod) specially designed for the reinforcement of concrete.	Revenue duty.
103*n*	*Iron or steel railway track material*—	
	A. Rails (including tramway rails the heads of of which are not grooved)—	
	(*a*) 30 lbs. per yard and over, and fish-plates therefor.	Revenue duty.
	(*b*) under 30 lbs. per yard and fish-plates therefor—	
	(i) of British manufacture . .	Rs. 10 per ton or revenue duty whichever is higher.
	(ii) not of British manufacture .	Rs. 39 per ton or revenue duty whichever is higher.
	B. Switches and crossings including stretcher bars and other component parts, and switches and crossings including stretcher bars and other component parts for tramway rails the heads of which are not grooved—	
	(*a*) for rails 30 lbs. per yard and over .	Revenue duty.
	(*b*) for rails under 30 lbs. per yard—	
	(i) of British manufacture . .	Rs. 11 per ton or revenue duty whichever is higher.
	(ii) not of British manufacture .	Rs. 43 per ton or revenue duty whichever is higher.
	C. Sleepers and sleeper bars, other than cast iron—	
	(i) of British manufacture . . .	Revenue duty.
	(ii) not of British manufacture . . .	Revenue duty.
	D. Spikes (other than dogspikes) and tiebars—	
	(i) of British manufacture . . .	Rs. 10 per ton or revenue duty whichever is higher.
	(ii) not of British manufacture . . .	Rs. 39 per ton or revenue duty whichever is higher.
	E. Dogspikes—	
	(i) of British manufacture . .	Seven annas per cwt. or revenue duty whichever is higher.
	(ii) not of British manufacture	Rs. 2-15-0 per cwt. or revenue duty whichever is higher.
	F. Gibs, cotters, keys (including tapered key bars), distance pieces and other fastenings for use with iron or steel sleepers—	
	(i) of British manufacture . . .	Seven annas per cwt. or revenue duty whichever is higher.
	(ii) not of British manufacture . . .	Rs. 2-15-0 per cwt. or revenue duty whichever is higher.
103*o*	Iron or steel railway track materials not otherwise specified, including bearing plates, cast iron sleepers and lever boxes.	Revenue duty.
103*p*	Iron or steel tramway track materials not otherwise specified, including rails, fish-plates, tiebars, switches, crossings and the like materials of shapes and sizes specially adapted for tramway tracks	Revenue duty.
103*q*	Iron or steel barbed or stranded wire and wire rope.	Revenue duty.

Serial No.	Names of Articles.	Duty.
103*r*	Iron or steel wire, other than barbed or stranded wire, wire-rope or wire netting; and iron or steel wire nails—	
	(i) of British manufacture	Rs. 25 per ton or revenue duty whichever is higher.
	(ii) not of British manufacture . . .	Rs. 60 per ton or revenue duty whichever is higher.
103*s*	Iron or steel nails, not otherwise specified . .	Revenue duty.
101*g*	Iron rice bowls	Revenue duty.
103*a*	Iron or steel anchors and cables	Revenue duty.
103*c*	Iron or steel expanded metal	Revenue duty.
103*e*	Iron or steel rivets—	
	(i) of British manufacture	Revenue duty.
	(ii) not of British manufacture . . .	Rs. 1-14-0 per cwt. or revenue duty whichever is higher.
103*h*	Iron or steel fish bolts and nuts—	
	(i) of British manufacture	Revenue duty.
	(ii) not of British manufacture . . .	Rs. 4-5-0 per cwt. or revenue duty whichever is higher.
	Iron or steel bolts and nuts including hook-bolts and nuts for roofing but excluding fish bolts and nuts—	
	(i) of British manufacture	Revenue duty.
	(ii) not of British manufacture . . .	Rs. 1-9-0 per cwt. or revenue duty whichever is higher.
103*f*	Iron or steel washers	Revenue duty.
104	All sorts of iron and steel and manufactures thereof not otherwise specified.	Revenue duty.

Notes on proposed Tariff Schedule.

General.—In all cases where protective duties are recommended it is recommended also that duty shall be charged at the revenue rate if the duty so calculated is higher than that calculated according to the protective rate. By the revenue rate is meant a non-protective duty. This may be different for different goods, and for goods of the same kind but made in different countries. Where articles formerly subject to protective rates are withdrawn from the protected category, it will be necessary for revenue rates of duty to be fixed. The Board makes no recommendations as to what rate of revenue duty should be fixed for such articles.

Arrangement.—The arrangement of the tariff schedule has been altered in a few places on grounds of convenience and logical order.

75. *Coal tubs, etc.*—No change has been made in the description, but the rates of duty have been altered in agreement with the new rates recommended for rolled steel. The protective rate on non-British goods coming under this description is intended to compensate for the protective duty on the raw materials of

manufacture and is calculated on the basis of the goods being made up equally from bars, structural sections and plates. The average of the protective rates for these three categories has been taken and 10 per cent. added to allow for wastage in manufacture.

No protection is required in respect of British goods as a duty calculated in the same way as for non-British goods would be clearly less than duty at the revenue rate.

101*f*. *Iron, pig.*—No change.

101*a*. *Iron alloys.*—No change in duty. The wording of the description has been amplified to make it quite clear that only unworked material ordinarily used for steel making is included and not other materials such as alloy steel which might on a narrow technical basis be claimed as iron alloys.

102*g*. *Steel ingots.*—Are separated out as being a different class of material from the other descriptions.

Billets, etc., of iron as well as steel—are included and a limit of size is introduced for billets.

The Board recommend that billets for re-rolling should be passed free, but for administrative reasons it would appear better to authorise the free entry for the re-rolling mills by the issue of an order of exemption rather than by amending the tariff. The order could make the exemption from duty dependent upon the carrying out of any conditions deemed necessary for ensuring that only billets intended for re-rolling are allowed free entry.

Hoop, strip, bar, flat, plate, sheet.—These terms are defined in the Note as far as flat material is concerned, so as to avoid uncertainty of classification and to render practicable the simplification of the wording of tariff categories.

101*b*, 101*c*, 102*a*, 102*b*. *Iron or steel angle, channel, tee, flat, beam, zed, trough and piling.*—The tariff has been simplified by bringing into one item all the ordinary structural sections, whether of iron or steel. The recommended duties are substituted for the existing duties. The duty on sections, not of British manufacture, not fabricated, is higher than on fabricated by Rs. 3. The Board is satisfied that the difference is not such as will cause any evasion of duty. Structural sections or plates coated with other metals are not included in the Board's recommendation for free admission of tested structurals and plates.

101*d*, 101*e*, 102*c* 102*d*. *Iron or steel bar and rod.*—Here also the tariff has been simplified by bringing all bar and rod into one item. Bar and rod now unprotected have been made liable to protective duties in accordance with the Board's proposal.

103*i*, 103*j*. *Plates.*—A single item includes all iron or steel plates except cast iron plates which are given a separate item.

103*k*, 103*l*, 103*m*. *Sheets.*—Iron and steel sheets are brought into one tariff item. The special rate of duty for sheets made in the United Kingdom from Indian sheet bars is withdrawn. The duties suggested for fabricated sheets are merely compensatory on account of the duties on the corresponding unfabricated sheets: an addition of 10 per cent. allows for wastage in fabrication.

102*h*. *Iron or steel structures, etc.*—No change except that iron is included as well as steel. The rate of duty conforms with the rate on fabricated plates and structural sections.

103*t*. *Iron or steel the original material of ships, etc.*—No change in the description. The specific duty recommended on non-British goods corresponds to the duty on unfabricated plates with a 10 per cent. allowance for wastage and is intended to afford compensatory protection to firms manufacturing ships from imported material for the duty paid by them on imported plates. No similar compensatory protection is necessary in the case of British goods in view of the Board's recommendation that unfabricated black plates of British manufacture should be passed free.

103*g*, 103*gg*, 103*h*. *Pipes and tubes.*—The duties are intended to be merely compensatory. The materials used in the manufacture of pipes and tubes are plates or sheets. The duties on sheets being higher than on plates, the compensatory duties are calculated on the basis of the duties proposed for black sheets *plus* allowance at 10 per cent. for wastage.

A separate item is proposed for cast iron pipes in consequence of the proposals for a protective duty on these.

The residuary item is unchanged.

103*a*. *Hoops and strips.*—No change.

102*i*. *Tinplates.*—No change in description. The new proposed rates of duty are shown. Different rates are proposed for British and non-British goods.

102*e*, 102*f*, 102*c* (*b*) (*i*). *Alloy and other special steels.*—The special steels are no longer to be excluded from the protective categories: the items in the present tariff covering their exclusion are therefore omitted.

103*s*. *Iron or steel (other than bar or rod)* specially designed for the re-inforcement of concrete—No change.

103*n*, 103*o*. *Railway track material.*—Heavy rails are removed from the protected list. Light rails, as in previous reports, are treated in the same way as bars, as also are spikes (other than dogspikes) and tiebars. The specific duty on switches and crossings for light rails is 10 per cent. higher than that on the rails and is intended to be compensatory, the 10 per cent. representing wastage of material in fabrication.

Sleeper bars have been included with sleepers, since it would be unreasonable to levy a higher duty on sleeper bars than on sleepers.

Dogspikes.—No change except in rates of duty. Different rates are proposed for British and non-British goods.

Gibs, cotters, etc.—A new description "tapered key bars" has been inserted to cover tapered keys imported in unfinished form, *viz.*, shaped on the key bar but requiring to be cut apart. The rates of duty are changed and different rates are proposed for British and non-British goods.

103*p*. *Tramway track materials.*—No change.

103*q*, 103*r*. *Wire and wire nails.*—A verbal change is made by the omission of the word 'fencing'. This is a technical drafting alteration only and does not alter the connotation of the description. The rate of duty is altered and different duties are suggested for British and non-British goods.

103*f*. *Nails.*—The item "Iron or Steel nails, not otherwise specified" is put here as in its logical place in the tariff.

101*g*. *Iron rice bowls.*—No change.

103*a*. *Anchors and cables.*—No change.

103*c*. *Expanded metal.*—No change.

103*e*. *Rivets.*—The rate of duty is changed and different rates of duty are suggested for British and non-British goods.

103*b*. *Bolts and Nuts.*—Fish bolts and nuts are separated out and made into a new tariff item on account of the different treatment recommended to be accorded to them. New rates of duty are applied to both items, different rates being proposed for British and non-British goods.

103*f*. *Washers.*—No change, except that nails have been taken out of this item.

104. *All sorts of iron and steel and manufactures thereof, not otherwise specified.*—No change.

सत्यमेव जयते

J. MATTHAI,
President.

G. WILES,
Member.

G. A. NATESAN,
Member.

19th April, 1934.

Appendices.

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APPENDIX I.

Representations received by the Tariff Board.

1. The Tata Iron and Steel Co., Ltd.
2. Davidas Jethanand & Co., Karachi.
3. S. K. Sawday & Co., Calcutta.
4. India Co., Ltd., Madras.
5. Bengal Iron Co., Ltd., Calcutta.
6. Braithwaite & Co., Ltd.
7. Mr. B. N. Gupta.
8. Khan Bahadur H. S Mahomad.
9. Indian Iron and Steel Co., Ltd.
10. Henry Williams & Co., Ltd.
11. Calcutta Iron Merchants' Association.
12. Indian Mining Federation.
13. Cawnpore Iron Merchants' Association.
14. Jessop & Co., Ltd.
15. Mr. Gayadin Ram.
16. Mr. Kristodhan Ganguli.
17. Indian Hume Pipe Co., Ltd.
18. Mysore Iron Works.
19. Tatanagar Foundry Co., Ltd.
20. Lakshmi Iron and Steel Manufacturing Co., Ltd.
21. Mr. N. N. Mookerjee.
22. Bengal National Chamber of Commerce.
23. Tinplate Co. of India, Ltd.
24. Mukund Steel Manufacturing Co.
25. Indian Steel and Wire Products.
26. Sur Enamel and Stamping Works, Ltd.
27. The United Provinces Chamber of Commerce.
28. Hindusthan Construction Co., Ltd.
29. Merchants' Chamber of United Provinces, Cawnpore.
30. George Tarton Platt & Co., Sheffield.
31. Pandit Nilkantha Das.
32. Bengal Industries Association.
33. Metal Box Co., Ltd., London.
34. Labour Federation, Jamshedpur.
35. Indian Merchants' Chamber, Bombay.
36. Indian Engineering Association, Calcutta.
37. Maharashtra Chamber of Commerce.
38. All-India Swadeshi Sangha, Bombay.
40. Iron and Steel Consumers' Association, Lahore.
41. Welsh Plate and Sheet Manufacturers' Association, London.
42. National Federation of Iron and Steel Manufacturers in the United Kingdom, London.
43. Sheet Makers' Conference of the United Kingdom, London.
44. Karachi Chamber of Commerce.

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45. Mr. S. K. Sarkar.
46. Buyers and Shippers Chamber, Karachi.
47. Karachi Indian Merchants' Association.
48. Calcutta Import Trade Association.
49. Mr. B. L. Batra.
50. National Petroleum Co.
51. Bombay Shareholders' Association, Bombay.
52. Kumardhubi Fire-clay and Silica Works, Ltd., Calcutta.
53. Reliance Fire-brick and Pottery Co., Ltd., Calcutta.
54. Ranegunge and Jubbulpore Potteries and Lalkoti Silica Brick Works, Calcutta.
55. Bihar and Orissa Chamber of Commerce.
56. Dorman Long & Co., Ltd.
57. Sikdar Iron Works.
58. French Trade Commissioner in India, Burma and Ceylon.
59. Pioneer Wire Nail Manufacturing Co.
60. Imperial Council of Agricultural Research.
61. Gwalior Chamber of Commerce.
62. Deccan Merchants' Association.
63. Indian Chamber of Commerce.
64. Iron Traders and Consumers' Association, Bombay.
65. Upper India Metal Works, Amritsar.
66. Vishram Narsi and Brothers, Bombay.

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APPENDIX II.

List of those who gave oral evidence before the Tariff Board.

1. The Tata Iron and Steel Co., Ltd.—20th to 24th November, 1933 and 11th January, 1934.
2. Indian Steel and Wire Products—27th November, 1933.
3. Jessop and Co., Ltd.—28th November, 1933.
4. Braithwaite & Co., Ltd.—28th November, 1933.
5. Henry Williams & Co., Ltd.—29th November, 1933.
6. India Co., Ltd.—29th November, 1933.
7. S. K. Sawday & Co.—29th November, 1933.
8. Mukund-Steel Manufacturing Co.—30th November, 1933.
9. Lakshmi Iron and Steel Manufacturing Co., Ltd.—30th November, 1933.
10. Gayadin Ram—30th November, 1933.
11. Bengal Iron Co., Ltd.—1st December, 1933.
12. Mysore Iron Works—5th December 1933.
13. Indian Hume Pipe Co., Ltd.—6th December, 1933.
14. Hindusthan Construction Co., Ltd.—6th December, 1933.
15. Devidas Jethanand & Co.—6th December, 1933.
16. Indian Merchants' Chamber, Bombay—8th December, 1933.
17. Merchants Chamber of United Provinces—12th December, 1933.
18. Tinplate Co. of India, Ltd.—13th December, 1933.
19. United Kingdom Sheet Makers' Conference—14th December, 1933.
20. National Federation of Iron and Steel Manufacturers—18th December, 1933.
21. Calcutta Iron Merchants' Association—19th December, 1933.
22. Sur Enamel and Stamping Works, Ltd.—19th December, 1933.
23. N. N. Mookerjee—20th December, 1933.
24. Bengal National Chamber of Commerce—20th December, 1933.
25. Indian Mining Federation—21st December, 1933.
26. Pandit Nilkantha Das—21st December, 1933.
27. Tatanagar Iron Foundry—22nd December, 1933.
28. Bengal Industries Association—22nd December, 1933.
29. Sikdar Iron Works—23rd December, 1933.
30. Indian Iron and Steel Co., Ltd.—10th January, 1934.

APPENDIX III.

Graph illustrating relation of Agricultural Prices and Consumption of Steel Sheets.